DOCUMENT RESUME

ED 075 482 TM 002 560

AUTHOR	Schabacker, William H., Ed.; And Others
TITLE	Focus on the Future of Georgia 1970-1985.
INSTITUTION	Georgia State Dept. of Education, Atlanta. Georgia Assessment Project.
PUB DATE	70
NOTE	520p.
EDRS PRICE	MF-$0.65 HC-$19.74
DESCRIPTORS	*Educational Objectives; *State Programs; *State Surveys; *Statewide Planning; Technical Reports
IDENTIFIERS	*Georgia Assessment Project

ABSTRACT

As part of the Georgia Assessment Project (GAP), initiated in January 1969 to provide statewide measurement of the impact of educational programs, services, and resources on children and youth, 19 position papers were prepared by specialists to assist the Advisory Commission on Education Goals. The papers, some with critiques, concern Georgia's current status and probable status in 1985 with respect to the social, economic, technological, political, and cultural environment. The subjects discussed are Georgia's economy, industrial development trends and forecasts, agriculture, automation, transportation, manpower and employment, demography, the individual, social disorganization, religion, civil rights, equality of educational opportunities, governmental structure, political culture, perspectives on health care, ecology, communications systems and mass media, leisure and recreation, and the arts. (DB)

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Focus on The Future of Georgia, 1970-1985

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Focus on the Future of Georgia 1970-1985

Edited by

William H. Schabacker
Russell S. Clark
Homer C. Cooper

Papers prepared for use by the
Advisory Commission on Educational Goals
of the State Board of Education

Division of Planning, Research and Evaluation
Office of Deputy Superintendent of Schools
Georgia Department of Education
Atlanta, Georgia 30334
1970
Jack P. Nix, State Superintendent of Schools

Library of Congress Catalog Card Number: 71-630709

Funds to underwrite the preparation and publication of the papers and staff support to the Commission were provided from Title III, Public Law 89-10, Elementary and Secondary Act of 1965.

Preface

Georgia's State Board of Education, which is responsible for public elementary, secondary, adult, and vocational education, initiated the Georgia Assessment Project (GAP) in January 1969. GAP is designed to provide statewide measurement of the progress of Georgia's children and youth toward achievement of those qualities necessary to live successfully in the Georgia and United States of 1985 and beyond. Information secured from GAP will be used to

(1) show the measurable impact of educational programs, services, and resources on children and youth;

(2) determine the relationship between costs and educational benefits;

(3) identify areas of critical educational need; and

(4) develop long-range educational planning.

To initiate GAP, the State Board of Education appointed eleven distinguished Georgians to an Advisory Commission on Education Goals. The Commission members were selected on the basis of their broad collective experience in many areas of Georgia life and include by occupation a federal judge, two university presidents, a physician, two industrialists, a banker, an attorney, two business executives, and a former president of the Georgia Congress of Parents and Teachers. Even though the Commission members represented varied interests and greatly different outlooks and philosophies, they possessed one common commitment: the desire to assure a superior education for all the children, youth, and adults in the state. The tasks of the Commission were to

1. examine the social, economic, and political life of Georgia;
2. project the probable social, political, and economic conditions of the state through 1985;
3. identify as goals for education the knowledge, skills, and values that will enable the citizen of Georgia to live successfully in the future;
4. suggest the nature of the education system necessary to achieve the desired goals.

To assist the Commission with these tasks, highly qualified specialists prepared 19 position papers about Georgia's current status and probable status in 1985 with respect to the social, economic, technological, political, and cultural environment. In addition, critiques of some of the position papers were prepared to provide additional analyses, corrections, or amplification. The authors of the position papers and their critics came from the academic world, business and industry, government, and the professional world at large. They were selected for their demonstrated knowledge about conditions in Georgia today and their qualifications to state expert opinion about probable conditions in Georgia for the future. The views expressed in the papers and critiques are those of the individual authors and not necessarily those of the Commission.

Because of widespread interest in the work of the Advisory Commission on Education Goals and the wealth of material related to all facets of life in Georgia contained in the position papers and critiques, these have been compiled and published for general use. It is hoped that after reading the contents of this book the citizens of Georgia will have a greater understanding of Georgia's present and future, of its people and institutions, of its problems and potential.

This volume has been made possible by the cooperation and efforts of many people: the authors of the papers and their critics; the staff of the Publications and Information Services Unit of the Georgia Department of Education; the staff of the Social Science Research Institute and the Center for Continuing Education at The University of Georgia; the staff of the Division of Planning, Research, and Evaluation of the Georgia Department of Education. The individuals deserving special recognition for their contributions include Virginia W. Gerrett of the Social Science Research Institute; Rena K. Griffin, Rebecca H. Harkins, Sarah A. House, Charles E. Knott, Susan C. Kudrak, Sallie P. Newbill, Anne Raymond, and M. Eugene Wallace of the Georgia Department of Education.

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NOTE: *Authors of some position papers also wrote abstracts or summaries which preface their detailed papers. Use of the GAP symbol indicates the beginning of the detailed papers.*

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*Served on an interim basis while Mr. Egan was out of the country.

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GEORGIA's economy today looks back on 30 years of outstanding growth, both in absolute terms and relative to the United States' economy. But this growth has been achieved from a low starting point and Georgia's per capita income in 1968 was only 81 percent of the national average.

During the past three decades the state's economy has become substantially less dependent on agriculture and much better diversified within both agriculture and manufacturing. The distribution of Georgia's employment by broad industrial classifications is now quite similar to that of the United States, and the national economic outlook is the most important single factor in the outlook for the state's economy.

Economy of Georgia

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Based on our projections for the U.S. economy and assuming that Georgia merely maintains its 1968 share, the state's personal income (about $14 billion in 1969) by 1985 would rise to $26½ billion in constant prices and to $37 billion in 1985 prices (assuming 40 percent inflation). But we strongly believe that Georgia will increase its share of U.S. income, and we project 1985 personal income for Georgia of $30 billion in constant prices and $42 billion in 1985 prices.

While we expect a continued decline in agriculture's proportion of the state's employment and income, the decline should be more moderate in the future. Even more significant, agriculture is now so much less important to the state that future gains in nonfarm employment will not be heavily diluted by any future declines in farm jobs.

We think that Georgia will continue to outgain the nation in manufacturing jobs and income although its margin of superior gain may not be as large as in recent years. Location in the center of the flourishing Southeastern market will benefit Georgia's position in manufacturing and in other industries serving surrounding states.

Georgia has the opportunity to benefit more fully from the under-utilized resources of its Negro population and to revitalize the economies of its small towns and rural counties. There are signs that some progress is being made in these areas.

Despite the stated strengths and opportunities, we expect Georgia's economic gains to lift per capita income only to 92½ percent of the U.S. average by 1985. The state continues to suffer from concentration in low value added and low pay manufacturing industries and from an unfavorable product mix within many individual industries. Georgia is also vulnerable due to its present disproportionate share of income from military-related payrolls.

We believe that this study has the following implications for the state's educational goals.

- The economy, like the rest of society, will become more complex and capable students must be prepared to cope with problems rather than merely trained in specific skills.
- Relatively more emphasis should be given to vocational training in industrial skills.
- Greater emphasis is needed in training for more complicated jobs as vocational oportunities will shift toward higher technology industries and even within the older industries toward more highly skilled jobs.
- Special attention is neded to prepare Negroes for a greater role in the economy.
- Increasing emphasis on adult education is a necessity to aid those who were short-changed educationally as children and those who were educated adequately for yesterday but who need re-training and re-educating for the more complicated today and tomorow.

Economy of Georgia

Review of Broad Economic Changes Over the Past Half Century

Georgia has experienced dramatic changes in its economy during the past 50 years. A review and analysis of these changes in some detail would seem to be a prerequisite for any attempt to project what the state's economy may look like some 15 years in the future.

The year 1919, immediately following World War I, was a year of great prosperity for Georgia—at least as measured both by what had gone before and by what was to follow for a long period ahead. Some 58 percent of all Georgians then lived on farms, about double the national proportion. Only one-fourth of the state's population was then classified as urban, as compared with one-half for the entire United States.

Georgia's relative prosperity in 1919 is easy to understand. We were predominantly an agricultural state, and cotton, the main source of farm income, sold at an average of 32 cents a pound, a price not again equaled or exceeded until after World War II.

In 1919 Georgians had total personal income of $1.2 billion and a per capita income of $417. These measures are obviously low compared with corresponding 1968 figures of $12.7 billion and $2,781. But in 1919 Georgia's share of total U.S. income was 1.75 percent and in 1968 it was 1.86 percent; it was not until 1965 that Georgia's share of U.S. income was larger than in 1919. Fifty years ago Georgia's per capita income was 64 percent of the U.S. per capita; in 1968 it was 81 percent, but it was not until 1943 that the 1919 ratio was surpassed.

Let us present one more fact before we leave 1919. In Georgia in that year we had almost $3.50 of agricultural income for every $1.00 in factory payrolls; nationally in the same year there were only 85 cents of farm income for each dollar of factory payrolls. It is not hard to understand why Georgia's economy fared relatively poorly during the 1920s with this decade's curious mixture of boll weevils and other even more basic causes of farm depression in the midst of a national industrial boom. Just as 1919 showed the benefits of almost complete dependence on one commodity when factors were favorable to that product, so do the 1920s show the evils of no diversification when the main industry or crop goes sour.

Georgia's relative economic slide during the 1920s is clearly shown by the personal income data. Total wages, farm income, dividends, and all other types of income received by Georgians in 1929 were about one-sixth *less* than in 1919, while in the same period U.S. income payments had *risen* by almost one-fourth. Our level of per capita income declined to only one-half the national average. Nationally farm income dropped about two-fifths during this 10-year span, but in Georgia farm income was down almost three-fifths because of sharp declines in both the price and output of raw cotton. Factory payrolls in Georgia between 1919 and 1929 rose 15 percent, but even here we did not keep full pace with the national gain of 20 percent.

Although the Georgia economic picture on the whole in 1929 was rather bleak, there were beginning to be some faint glimmerings of a better and more balanced economic structure ahead. By 1929 Georgia's income from farming was $1.33 for each dollar of factory payrolls, far less than 10 years earlier. In 1929 cotton and cottonseed accounted for 59 percent of the state's total cash receipts from farm marketings, still an extremely high proportion but at least some improvement over the 62 percent proportion of 1924; meanwhile tobacco, hogs, and dairy products were beginning to loom larger in the state's total farm income. In the industrial field Georgia was increasing sharply its share of the national output of cotton textiles. But Georgia's share of total U.S. personal income in 1929, at 1.18 percent, was a far cry from the 1.75 percent of 1919.

The ravages of the Great Depression were severe in Georgia as elsewhere. With the price of cotton down to six cents and with industrial employment and wages off sharply, conditions were dismal. Georgia was an integral part of what was then described as "the nation's number one economic problem." Despite its unhappy condition, however, Georgia suffered slightly smaller declines from 1929 to 1933 than was true of the nation as a whole. Georgia's share of total U.S. income advanced by 1933 to 1.28 percent and its per capita income climbed to 54 percent of the national average. Agriculture still predominated in 1933, with $1.05 of agricultural income for each $1 of factory payrolls as compared with a national figure of 38 cents for each $1.

Happily Georgia's economic progress since the mid 1930s has been truly remarkable. Aided by federal assistance of various types the state's personal income by 1940 exceeded the 1929 level by 3 percent although for the nation as a whole personal income in 1940 was 9 percent short of the 1929 level. Georgia's share of U.S. personal income in 1940 was up to 1.34 percent. In 1940 44 percent of Georgia's population lived on farms and 34 percent was classified as urban, as compared with ratios of 58 percent and 25 percent, respectively, 20 years earlier. In 1940 Georgia's farm income was 92 cents for each dollar of factory payrolls and per capita income was 57 percent of the national average.

The 1940s brought further substantial relative gains to Georgia. During World War II we received the stimulus of military payrolls in our extensive training camps and—much more important for the long run—tens of thousands of our workers received industrial training in our shipyards, bomber plant and munitions and component part factories. These experiences gave us and managements of many national concerns better appreciation of our large reservoir of educable workers—workers who had become or were becoming surplus to their normal agricultural pursuits. Whatever the primary causes of our new economic life, the fact is that we gained a self-confidence in our ability to surge forward. At the same time we won the respect and confidence of those in other sections who are constantly seeking profitable ways—and places—to employ capital.

The year 1950 is a convenient date for appraising Georgia's relative economic progress during the decade that included the war and early post-war years. Between 1940 and 1950 Georgia's personal income rose 241 percent as compared with a U.S. gain of 190 percent. Our share of the U.S. total increased to 1.58 percent (from 1.34 percent in 1940). In this decade our factory payrolls quadrupled, while nationally they trebled. In 1950 we had only 50 cents of agricultural income for each $1 of factory payrolls. During the 1940s our farm population dropped sharply and in 1950 was only 28 percent of the state's total population.

The 1950s was a period of consolidating gains rather than of further significant relative growth. In 1960 Georgia's share of U.S. personal income was 1.63 percent, only slightly above the ratio in 1950. The trend away from the farm continued, however. In 1960 farm population (defined more narrowly than in earlier census years) was down to about 10 percent of the state total and farm income was only 25 cents for each $1 of factory payrolls.

Georgia's relative growth has accelerated in the 1960s. From 1960 to 1968 personal income increased 96 percent in Georgia and 71 percent in the U.S., and Georgia's share of the national total rose to 1.86 percent (vs. 1.63 percent in 1960). During this eight-year period Georgia bettered national gains in both factory payrolls and agricultural income. Currently Georgia's 16 cents of farm income for each dollar of factory payrolls demonstrates further shift from dependence on agriculture and is not significantly different from the U.S. ratio of 12 cents of farm income for each dollar of factory payrolls.

The truly amazing changes in the broad character of Georgia's economy over the past half-century, described in the foregoing text, are summarized in Table 1.

Three central points emerge from the kaleidoscopic picture of the past 50 years presented in the preceding discussion and in Table 1.

- Georgia's economy has drastically lessened its dependence on agriculture.
- Georgia's economy had little resemblance to that of the U.S. as a whole in 1919 or 1929 or even as recently as 1940, but since 1940 Georgia's economy has tended to look more and more like that of the entire nation.
- Except for the 1920s, when Georgia suffered relatively from its abnormal dependence on agriculture, Georgia's economy has consistently grown at a faster rate than the economy of the U.S. as a whole. Superior growth rates were especially marked during the 1940s and again in the 1960s.

A Closer Look at Recent Developments

Charts 1 and 2 are helpful in examining broad economic changes over the past 30 years. In this analysis we use employment data for the years 1939 and 1967.

Chart 1 compares the distribution of employment for the U.S. and Georgia for each of these years. The top portion of the chart makes the comparison for 1939 when there was a marked *lack* of similarity. Note especially the differences in farm and in manufacturing and mining (mostly manufacturing). In 1939 farmers made up 49 percent of

Georgia's total workers, almost double the national ratio of 27 percent. In 1939 factories and mines accounted for 19 percent of total employment in Georgia and for almost 27 percent in the nation as a whole.

As shown in the bottom two circles by 1967 the distribution of employment in broad industrial groups in Georgia was quite similar to that in the nation as a whole. The share of total employment accounted for by agriculture was down to seven percent for the U.S. and seven and a half percent for Georgia. The share for factories and mines had changed only slightly for the U.S. and was 28 percent in 1967; but for Georgia this group had jumped significantly to almost 30 percent of the total. The other broad groups were quite close in 1967 except that service industries were only 10½ percent in Georgia against 14 percent for the U.S.

Chart 2 compares the percentage changes in employment from 1939 to 1967 of nine broad industrial categories that were combined into five groups in Chart 1. For total employment the comparison is unfavorable for Georgia. Our gain for the entire period of 44 percent was well under the national gain of 69 percent. But the reason for this poor showing is made clear by the next pair of bars showing changes in farm employment. The U.S. suffered a drop of 56 percent while Georgia had the amazing decrease of 78 percent. This had an especially adverse effect on Georgia's total because farming was so important to the state back in 1939.

In total non-farm employment the picture is entirely different, with Georgia substantially outperforming the nation. Georgia also widely outperformed the nation in six of the eight components of non-farm, was about even on one component (construction), and lagged the national gain only in service industries.

Developments within Manufacturing

In Table 2 we make possible a closer look at the composition of Georgia's manufacturing mix and the relative performance trends over a recent 10-year period, 1957 to 1967. Employment data are again used as the best available source of statistical material for such an analysis.

Each of the first four manufacturing industries listed (textile mill products, apparel, lumber, and pulp and paper) accounts for a significantly larger share of total factory employment in Georgia than in the nation. Combined, the four in 1967 made up 52 percent of the Georgia total and only 19 percent of the U.S. total. (It is of interest to note that two of these industries—textiles and lumber—declined in relative importance in Georgia's total factory employment from 55 percent in both 1939 and 1947 to 40 percent in 1957 and to 31½ percent in 1967.) The four industries combined outperformed U.S. gains 20 percent to six percent in the 10-year period, and all but lumber significantly beat the U.S. performance.

The second group consists of four industries which have about the same relative importance in Georgia as in the nation—food, transportation equipment (mostly autos and aircraft), stone, clay, and glass products, and furniture and fixtures. In the aggregate these four industries make up roughly one-fourth of total factory employment in both Georgia and the U.S. Gains from 1957 to 1967 were again substantially greater in Georgia in total (33 percent vs. three percent) and in all industries but one.

The final group is industries which are substantially less important in Georgia than nationally—machinery, metals, printing and publishing, chemicals, and all other. In 1967 this grouping made up 21 percent of the Georgia total and almost 57 percent of the U.S. total. Ten-year gains were much larger in Georgia for the entire group (71 percent vs. 21 percent) and for each industry within the group.

In the 10 years ending in 1967 Georgia's employment gains outstripped the nation's in 11 of the 13 manufacturing groups and in total factory employment Georgia beat the U.S. gain 32 percent to 13 percent. This was accomplished despite Georgia's above average dependence on industries which nationally have experienced below average growth in recent years. This is demonstrated in the bottom section of Table 2 where we classify industries as between slow growers and fast growers. The national slow growers in 1967 made up 61 percent of Georgia's total and only 44 percent of the U.S. total.

It is possible mathematically to put a cost-tag on this phase of Georgia's adverse product mix. Thus, if all 13 manufacturing industries shown in Table 2 in 1957 had had the same relative share of total in Georgia as in the U.S. and if each Georgia industry had still experienced the same percentage change from 1957 to 1967 as was actually experienced, Georgia would have had a total 10-year gain in manufacturing employment of 57 percent instead of 32 percent. Instead of an absolute gain of 106,000 workers the gain would have been 188,000 workers. An extra 82,000 factory workers, with appropriate allowance for secondary effects in trade, service, and other industries other than manufacturing, would likely have meant an increment of about $1 billion in personal income for Georgians in 1967, some nine percent more than the personal income reported for that year.

Georgia's product mix in manufacturing is also adverse in other respects. We refer especially to its above average concentration in industries which are below average in pay rates and in value added per employee. In 1967 Georgia's value added by manufacture per employee was $11,873, some 11 percent less than the national average of $13,367. In the same year Georgia's average pay per employee (in manufacturing) was $5,139, some 24 percent less than the national average of $6,798.

In 1967 industries accounting for about half of Georgia's total factory employment had national value added per employee ratios equal to or higher than the national average for all manufacturing; this represents moderate improvement from 10 years earlier and substantial improvement from 20 years earlier. But in 1967 the other half of Georgia's total factory employment was still accounted for by four industries (textiles, apparel, lumber, and furniture) which had national value added per employee ratios averaging some 39 percent below the national average for all industries.

Georgia's product mix in manufacturing is even less favorable as measured by average annual pay per employee. In 1967 only one-third of our factory employment was in industries with average or above-average pay rates and almost half was in industries (textiles, apparel, and lumber) with average pay about 35 percent below the national average for all manufacturing. Another one-sixth was in industries with pay rates about 12 percent below the national average for all factory workers.

Developments within Agriculture

In Georgia economic changes within agriculture have been even more drastic than within manufacturing. Table 3 shows Georgia's total cash income from farm marketings for selected years and the percentage distribution of the total by major product groupings for the same years.

The rise of 602 percent in Georgia's cash income from farm marketings between 1940 and 1968 is in itself remarkable. (It compares with the U.S. gain of 432 percent in the same period.) Between 1940 and 1968 the price index for Georgia farm products rose 181 percent. Mathematically these relationships imply that the physical volume of Georgia's farm products rose 150 percent between 1940 and 1968. In the face of a decline of almost 80 percent in farm employment this is an achievement that bears witness to remarkable gains in skills and productivity of Georgia farm operators and their equipment.

But equally remarkable are the drastic shifts in relative importance of various farm products. Cotton has been losing position for many years, but as recently as 1950 it was still the most important single source of cash farm income in Georgia. By 1968 cotton ranked ninth among the 12 separate groups shown in Table 3.

Poultry and eggs have been the big gainers jumping (combined) from six percent in 1940 to 37½ percent in 1968. In the most recent period eggs have shown steadier growth than broilers.

A significant portion of the increased share of total for other crops since 1960 is accounted for by soybeans. This relatively new crop in Georgia accounted for two percent of the state's cash income from farm marketings in 1968.

Before concluding this brief review of developments within the agricultural sector of Georgia's economy attention is directed to the marked absolute and relative decline in the number of farm tenants. In 1930 Georgia's farm tenants numbered 174,000; they made up 68 percent of all Georgia farm operators and accounted for 51 percent of total acreage devoted to farming. By 1950 the number of tenants had dropped to 85,000 and they made up 43 percent of all operators and farmed 25 percent of the state's farm acreage. In 1964 the number of tenants was down to 13,500 and they were only 16 percent of all farm operators and farmed only nine percent of Georgia's total farm acreage.

Georgia's Relative Trends as Measured by Other Broad Economic Indicators

Georgia's relative progress in recent decades is also evident from an analysis of trends in economic indicators other than those mentioned heretofore in this text. In Table 4 we show Georgia's share of the U.S. total in selected years over the past three decades in five measures—two related to consumption and distribution and three to finance. The specific years were chosen because they happened to be years covered by the Census of Business.

According to these figures Georgia has experienced substantial and, in most cases, uninterrupted gains in its share of national economic totals. Especially significant is the extremely fast relative rise in wholesale trade, bearing witness to Georgia's strategic location for serving the expanding Southeastern region. Also significant is the fact that Georgia is relatively weaker in the financial measures than in those related to trade; we still depend rather heavily on attraction of outside capital to keep the state's economy moving ahead. And, as a sobering factor, we note that in 1967 Georgia accounted for 2.3 percent of the nation's total population; on a per capita basis we are still below the national average on most economic measures.

Diverse Trends within the State

Up to this point our discussion has dealt with the record of Georgia's total economy and certain of its major industrial classifications. Our economy suffered, comparatively, during the 1920s because of our earlier predominant dependence on agriculture, especially cotton. But we have outpaced the national gains in nonfarm activities since the early 1930s and have developed an economic structure no longer differing greatly from that of the nation as a whole. Cotton is now only one of several commodities contributing to a diversified agriculture. Within manufacturing the strong growth of metal and metal-working industries, apparel, paper products, and stone, clay, and glass products has substantially lessened the earlier predominance of cotton textiles. We have made great strides in the balance between agriculture and industry and in the diversification within both agriculture and industry. We have closed about three-fifths of the per capita income gap that existed in 1929.

The economic changes that we have experienced have been healthy for the state as a whole, but they have had widely disparate effects on different portions of the state. County population data provide a convenient handle for analyzing these disparities.

Decline in county population is a long-term phenomenon in Georgia. The number of counties suffering decade declines in population was 98 in the 1920s, 62 in the 1930s, 97 in the 1940s, and 92 in the 1950s. The make-up of the downtrend group has varied from decade to decade, but there have been a large number of steady losers (75 from 1940 to 1960). The steady losers with some exceptions generally form a broad belt encompassing the upper part of the Coastal Plain and the lower part of the Piedmont area.

On the other side of the picture are 24 Georgia counties that have enjoyed increased population in each decade and 28 others with gains in three of the four decades. The consistent gainers are well scattered geographically but include most of the counties in what are now designated as the metropolitan areas of Albany, Atlanta, Augusta, Columbus, Macon, and Savannah.

Without attempting statistical proof, it seems clear that economic changes underlie the population changes. The areas of greatest population decline are largely those where cotton production was formerly the heaviest and which are without agricultural or industrial substitutes. The obverse of the decline in population of many agricultural counties has been the sharp rise in the number of urban and suburban dwellers. Exodus from farms to urban areas simply means concentration of unemployment in the latter unless they enjoy sound and growing economies. The basis for sound growth in urban areas must depend on employment opportunities in manufacturing, distribution, transportation, finance, government or educational institutions, and preferably some combination of these. But industrialization is no guarantee of continuing growth if there is concentration in one industry which suffers a downtrend. (The population declines from 1950 to 1960 of Polk, Spalding, Troup, and Upson Counties—in each of which textile manufacturing is the leading industry—are illustrative.)

Table 5 sums up the divergent effects that economic change has had on different parts of Georgia.

The close correlation between size of city and population performance must have a significance. The presence or development of cities of 15,000 and up has been accompanied by substantial county gains over a period of years. With few exceptions Georgia counties with smaller communities have been hard pressed to keep themselves economically attractive—at least on the figures through 1960. But we stress the fact that there have been exceptions. For example, nine of the 24 counties with population gains each decade since 1920 are counties not having a city of 15,000. Some of these have benefited from proximity to metropolitan areas, but others are small-town counties that have progressed because they have made their communities attractive for industrial development.

There are some indications that the small-town counties have done better since 1960. U.S. Department of Commerce estimates of county populations are available for 1966. These estimates indicate percentage changes between 1960 and 1966 as follows.

13 counties in metro areas	+19%
18 other counties with cities of 10,000 and up	+11%
128 other counties	+ 6%
159 counties (state total)	+13%

In a sense these figures confirm earlier trends, but with a major exception: the 128 counties without a city of 10,000 show an aggregate gain, not a loss. The

Commerce Department estimates also indicate a decline in population since 1960 of 46 counties, only half the number showing declines in the 1950s. Confirmation of these indicated trends by the 1970 census would be a favorable development.

Some support for the hope that the population and economies of the small-town counties are beginning to see better days relatively is derived from recently published personal income data for counties and metropolitan areas. These data are also estimates of the U.S. Department of Commerce, but they are based to an important degree on hard facts related to employment and payrolls of all establishments covered under the employment security program. According to these figures personal income in Georgia's six metropolitan areas accounted for 54.3 percent of the state's total personal income in 1940. This ratio rose to 56.7 percent in 1950 and to 62.1 percent in 1959. But since 1959 there has been little change, with the ratio at 62.7 percent in 1962 and 63.2 percent in 1967. Looking at it obversely, the non-metro counties suffered a sharp loss in position from 45.7 percent in 1940 to 37.9 percent in 1959, but since then have shown little change (36.8 percent in 1967). Apparently in the 1960s the non-metro counties have been sharing more fully in Georgia's recent substantial economic advance.

Racial Disparities

Georgia's above average proportion of Negro population and the persistent differences between whites and blacks in educational and economic opportunity and attainment are significant facts affecting Georgia's economic development.

In 1960 Georgia's nonwhites (mostly Negroes) comprised 28.5 percent of the state's total population, two and a half times the corresponding U.S. ratio of 11.4 percent. Georgia's nonwhite population actually declined during the 1920s, was virtually unchanged between 1930 and 1950, and rose a modest six percent in the 1950s. Georgia Department of Public Health estimates indicate a further rise of five percent between 1960 and 1968, substantially less than the estimated 20 percent increase in the state's white population in the same period. The proportion of nonwhites in Georgia's total population was about 42 percent in 1920, 37 percent in 1930, 35 percent in 1940, and 31 percent in 1950; it is indicated at about 26 percent for 1968.

Quantitatively the disparity in educational attainment can be measured by the median number of years of schooling completed by population 25 years of age and older. In Georgia in 1940 these medians were 8.1 years for whites and 4.2 for nonwhites, a disparity of 3.9; in 1950 the medians were 8.8 for whites and 4.9 for nonwhites, again a difference of 3.9 years; and in 1960 the medians were 10.3 and 6.1, a gap of 4.2 years. The level for both groups rose, but the disparity remained. Qualitatively the disparity in educational attainment is no doubt even greater than suggested by the above figures.

Racial disparities in income are also great but have been narrowing. In 1949 (earliest year for which reliable data are readily available) the median income for nonwhite families and unrelated individuals was 42 percent of the corresponding median for whites. By 1959 the ratio had risen to about 44 percent. Sample studies of the U.S. Department of Commerce covering the entire South would suggest that the Georgia ratio had risen to about 50 percent by 1967. The substantial disparity in income applies almost equally in urban and rural areas.

Mathematically the decline in relative importance of a segment of the population that has been far below the state average in per family income has no doubt helped in lifting the state's relative standing in per capita income. Far sounder in Georgia's long range economic progress will be steps—including education and training—which will make it possible to bring much closer to full economic potential one of the state's most important under-utilized resources.

The Future

As a backdrop for our discussion of Georgia's economy over the next decade and a half it seems desirable to set forth our projections or assumptions with respect to the national economy. The economies of Georgia and the U.S. have become so similar, at least in broad industrial classifications, that U.S. economic trends are certain to have a marked influence on what happens in Georgia. We believe strongly that the magnitude of changes in the U.S. economy will be the most important single factor affecting the magnitude of changes in the Georgia economy between now and 1985.

We believe that the national economic environment in the 1970s and early 1980s will be good although obviously there will be problems. We feel strongly that the nation will continue to avoid a depression for reasons that present space does not permit us to detail. We quite likely will have recessions —or pauses or slowdowns—during the next 15 years, but we would not expect any declines to be both severe and prolonged.

In general we look for continuing growth sparked by rising population, by further impressive developments in the fields of research and technology, and by the apparently insatiable appetite of American consumers for the products and services that make for greater material comforts. High level demand for consumer goods and services—together with rising labor costs, new products and new production methods—will create a strong demand for capital goods.

Impending changes in the population mix should influence economic developments favorably in the next 15 years. During this period as a whole, and especially in the 10 years from 1970 to 1980, population in the primary working ages (18-64) will increase faster than the total population. The near-term acceleration in working age population provides opportunity for substantial increases in employment to meet the needs of a growing economy. But, of course, it carries the potential of more serious unemployment if economic growth falters.

Another important population factor involves changes indicated for age groups 18-34 and 35-44. The number of persons in the 18-34 group will grow at an unusually rapid pace in the 1970s, while the number in the 35-44 group (which will show a decline from 1965 to 1975) will increase rapidly from 1975 to 1985. It is probably fair to describe the 18-34 group as being relatively high on borrowing and relatively low on saving. This is the group that sparks family formations and related demands for rental housing, autos, household goods, and apparel for young children. The 35-44 group is reaching the prime of earning power, is better able to save, and is more interested in home ownership and in higher education for its children. The two groups combined, i.e., ages 18-44, make up a prime and dynamic portion of the entire American market. The indicated population gain for these combined groups of 38 percent between 1970 and 1985 is the largest percentage increase for any 15 year period in the 20th century; it is substantially higher than for any 15 year period that began between 1910 and 1955 inclusive.

Along with growth in demand, we would expect the 1970-85 period to be characterized by upward pressures on labor costs and prices (although such pressures will be less than if we were faced with a slower growth in the labor force) and by relatively high interest rates.

In presenting this quick preview of the national economy, we explicitly assume that somehow we shall avoid stumbling into World War III. We also assume that hostilities in Vietnam will gradually terminate and that domestic, political, and social pressures will militate against active U.S. involvement in future "Vietnams." Nonetheless, we recognize that we live in a dangerous world, and we assume that the U.S. will maintain a strong military establishment through this projection period. As a rough guess we suggest that the level of "real" U.S. military expenditures (i.e., expenditures adjusted to exclude the influence of changes in prices) after Vietnam will fall to a rate between 1964 (pre-Vietnam acceleration) and 1969, possibly one-third way back or perhaps half way back. In either event after Vietnam, military expenditures would become a significantly lower percentage of gross national product, and room would be found for reduction in tax rates or greater federal expenditures for pressing domestic needs, or some combination of these.

We shall quantify our projections in terms of gross national product and personal income, which for 1969 are indicated at about $930 billion and $745 billion, respectively. After considering likely changes in population, labor force, working hours, and productivity, we believe that an average annual growth rate of four to four a half percent in "real" gross national product is a reasonable assumption. Over a 16-year period these gains would accumulate to 87 percent and 102 percent; they would point to aggregates, *in terms of the 1969 price level,* of about $1,750 to $1,850 billion for gross national product and of about $1,400 to $1,500 billion for personal income. For prices we assume a gradual dampening of recent inflationary pressures and an annual average increase of two percent in 1972 and subsequent years; this would accumulate to a 40 percent total price rise over the 16 years from 1969 to 1985. The combination of these assumptions for "real" growth and for price increases implies 1985 figures of about $2,500 billion for gross national product and of about $2,000 billion for U.S. personal income.

The Future Relative Trend Of the Georgia Economy

In forecasting the position of the Georgia economy in 1985, we will lean more toward qualitative rather than quantitative judgments. This choice is dictated in part by limitations of time for detailed research; in any event it is doubtful that precise, numerical estimates for various sectors of the economy would serve the Commission's purposes any better than carefully considered qualitative judgments.

For most long-range planning purposes, it is probably sufficient that correct answers be given to two questions. First, what general shape will the Georgia economy take over the next 16 years? And second what steps can be taken to insure maximum economic achievement? The first question can be framed in terms of which of three sets of past conditions are most likely to characterize the future.

> Is it possible that the Georgia economy will slip into the pattern of 1919-1929 with performance much below that of the nation's economy?
>
> Can Georgia's economy be expected merely to parallel the nation's economic growth?
>
> Or will the state continue to outperform the U.S. economy by a substantial margin as during the past 30 years?

We almost hesitate to ask the question whether Georgia could return to the inferior growth of the 1920s because the question may appear of the "straw man" variety. Nevertheless, regional economies do shift from superior to inferior performances, and *vice versa,* with little or no warning. As mentioned earlier, Georgia has made both shifts over the past 50 years. There are more recent examples as well. Between 1939 and 1953

Michigan enjoyed an economic boom comparable to Georgia's in many ways. Nonagricultural employment in Michigan increased 82 percent, somewhat more than Georgia's 77 percent gain in the period, and rose from 4.40 percent of the U.S. total in 1939 to 4.89 percent in 1953 and 1955. However, 1955 was the highwater mark in Michigan for nearly 10 years. Nonagricultural employment in Michigan as a percentage of the U.S. total fell to 4.25 percent by 1963 and in actual numbers did not regain its 1955 level until 1964. Total personal income in Michigan took a similar path, increasing from 4.60 percent of the U.S. total in 1940 to 5.16 percent in 1953 and 1955 and then declining to 4.49 percent in 1963.

Can something similar happen in Georgia? It seems highly unlikely, if only because of the diversification which exists in the Georgia economy today. As noted previously, the deterioration of the 1920s in Georgia could not have been so severe but for Georgia's heavy reliance on agriculture and within agriculture on cotton. Similarly, the Michigan economy in the early 1950s was much less diversified than Georgia's is today. In 1953 manufacturing accounted for 49.8 percent of Michigan's nonagricultural employment and in 1958, the first year for which figures are readily available, transportation equipment made up 34.0 percent of Michigan's manufacturing employment. It is safe to assume that transportation equipment loomed even larger in the Michigan economy of the early 1950s. In 1967 only 31.5 percent of Georgia's nonagricultural employment was in manufacturing and within manufacturing the largest industry, textile mill products, accounted for 25.6 percent of the total. Furthermore, there do not appear to be the compelling reasons for textile mill products to leave Georgia as there were for automobile manufacturers to diversify geographically outside of Michigan.

There are other reasons for believing that Georgia's economy is unlikely to be a poorer performer than the national economy over the next 15 years or so. The case against this alternative can be strengthened while deciding between the other two possible alternatives.

The decision between average (relative to the U.S.) growth and above average growth is more difficult than the rejection of the below average growth hypothesis. In fact, much of the remainder of this paper will be devoted to an analysis of this question, with the conclusion reached that Georgia will continue to enjoy faster economic growth than the nation as a whole.

Appraisals of Outlook for Georgia's Major Industrial Groups

This section of our paper appraises the outlook over the next 15 years or so for the major industrial groupings into which Georgia's economy may be classified. As noted previously, the appraisals will be qualitative, not quantitative, aimed mainly at developing a judgment as to whether Georgia can be expected to continue to increase its share of the national economy. We specifically disclaim expertise in many of the individual areas in which we shall express opinions. We trust that experts in these areas will find our opinions reasonable.

In approaching these appraisals it is helpful to think of industrial employment as falling into two broad categories, which we call *dynamic* and *non-dynamic*. A simple illustration will explain the concept. Suppose a valuable mineral deposit is discovered in some isolated, uninhabited area. The miners who come in will be engaged in *dynamic* employment. But sooner or later they will need food, clothing, shelter, and a variety of services including schools, government, etc. The employees providing goods and services for the miners and for each other we call *non-dynamic*. If the mine should close permanently the community would become a ghost town in the absence of some new dynamic development.

The dynamic factors for any community (including a state) are those which are based on local natural resources or which look to external markets as their principal source of demand. Almost every broad industrial classification includes some mixture of dynamic and non-dynamic. For present purposes we are arbitrarily classifying all agriculture, mining, manufacturing, and federal military employment as dynamic; we are also recognizing that significant portions of Georgia's transportation, communications, wholesale trade, financial, and federal civilian employment (i.e., those serving markets or areas much broader than the state) are also dynamic. It is on these dynamic groups that we concentrate in the following appraisals. The sum total of all other employment (the non-dynamic) is ordinarily somewhat larger than the dynamic, but it tends to follow closely the trends set by the dynamic group as a whole.

Agriculture

We expect agriculture to continue to account for a smaller and smaller share of employment and income both in the nation and in Georgia. Expanding farm output between now and 1985 will be necessary to feed the nation's growing population. But it is highly unlikely that farm output will keep pace with total industrial production. Demand for food is unlikely to increase much faster than population in a wealthy and economically developed country as the U.S., and non-food agricultural products will continue to suffer from the competition of synthetic materials. Massive expansion of U.S. farm exports could benefit certain Georgia crops such as soybeans, but the export outlook is problematical, and any increase is likely to be concentrated in grains which are not a significant cash crop in Georgia.

The future for poultry and eggs, Georgia's two largest farm products, appears good. One possible question mark is whether national per capita consumption of chicken will increase at the very rapid pace of past years.

Georgia agriculture does look vulnerable with respect to two crops, cotton and tobacco. The drastic decline in cotton which has occurred might well have been even greater but for the system of government acreage allotments which has tended to freeze production. Tobacco, of course, is under the cloud of the health scare and will face continued efforts by the federal government to discourage cigarette smoking. Fortunately, the importance of cotton has drastically diminished to the point that cotton and tobacco combined account for only one-ninth of Georgia's cash income from farm marketings.

There may well be new growth products for the state's agriculture as difficult to foresee as were broilers and eggs in 1940. Nevertheless, agriculture cannot be looked to as a source of above average growth for the state's income and even less for its employment.

One of the most optimistic facts for Georgia's economic future comes from a comparison of the past and future bearing of agriculture on the state's total economy. Even under the most pessimistic assumptions regarding agriculture, it cannot be the drag on the rest of the economy in the future as in the past simply because of its smaller share of the state's economy.

Recall that between 1939 and 1967 Georgia's farm employment fell from almost one-half to less than one-twelfth of the state's combined agricultural and non-agricultural payroll employment. Even as late as 1947 and 1957 its share was about one-third and over one-sixth, respectively. As noted previously, Georgia's 1939-67 increase in total employment of 44 percent compared unfavorably with the U.S. increase of 69 percent because of Georgia's greater dependence on agriculture in 1939 and, less importantly, because of the larger decline in agricultural jobs in the state than in the U.S.

Future gains in non-agricultural employment will not be so heavily diluted by declines in the state's farm work force. Significant gains in non-agricultural employment will be translated into gains for the total economy. As a matter of fact, this has already come to pass in recent years. In the 1957-67 period, as in still earlier periods since 1939, Georgia outgained the U.S. in non-agricultural employment (+39 percent versus +25 percent) but suffered worse declines in farm employment (—46 percent versus —35 percent). In contrast with 1939-57, however, Georgia showed a larger increase in total employment (+24 percent versus +17 percent) because of its lessened dependence on agriculture in 1957 than in earlier years. Had agriculture's share of total jobs been the same in 1957 as in 1939 or 1947, then the combination of the actual 46 percent decline in agriculture and the actual 39 percent increase in other jobs would have resulted in Georgia's gain in total employment being less than that of the U.S.

In addition we expect to see a deceleration in future declines in agricultural employment and in farm income's share of total personal income. Further increases in productivity on the farm can be looked for, and it seems probable that by 1985 Georgia's agricultural employment will be less than the 112,000 of 1967. However, we would not expect the six percent annual rate of decline in farm jobs experienced between 1957 and 1967 to persist. This, too, will have a favorable influence on total economic gains in Georgia's future.

Minerals and Mining

Georgia's proven mineral resources are almost exclusively in relatively minor, nonmetallic minerals. The state has generally been the leading producer of marble and kaolin (used in ceramics and as a filler in the paper and rubber industries) and ranks high as a producer of fuller's earth (used as a bleaching and deodorizing agent) and feldspar (used in ceramics manufacturing). However, in 1963, the date of the last Census of Mining, Georgia's rank among all states in mining was 26th in terms of employment and 27th in value of shipments.

In contrast to its relatively weak position in mining, Georgia's trend has been good in recent years. While national employment in the industry declined 26 percent between 1957 and 1967, mining employment in Georgia increased 18 percent and the state raised its share of U.S. employment from 0.66 percent to 1.06 percent. So far as employment trends go, the state actually benefited from the absence of coal and petroleum as these segments of the mining industry suffered employment declines.

Prospects appear good for continued moderate growth in the output of Georgia's present commercial mineral products, especially kaolin. While minerals are usually thought of as a lure to manufacturing, the reaction is reversible and the expansion of market-oriented industries, such as glass container manufacturing, will stimulate output of raw materials such as glass sand. However, the markets for the state's known minerals are relatively small, unlike the markets for major minerals like oil. We believe that the absence of major minerals will prevent the mining industry from assuming a paramount role in the state's economy.

We cannot be certain, of course, but we think that it is safest to rule out the discovery of major new minerals or the large-scale development of known minerals, such as iron ore deposits, a rumored development several years ago. With these assumptions we cannot see the mining industry providing a great thrust to Georgia's economic growth.

Timber and Forest Products

Georgia's greatest natural resource lies in its forests. They form the base not only for lumber and paper but also for plywood, particleboard, and other new building materials, for naval stores and wood chemicals and for cellulose for use in man-made fibers and plastics.

A 1961 survey of the U.S. Forest Service placed Georgia's commercial forest land at 26.3 million acres, second only to Oregon's 26.6 million acres. The increase in Georgia's forest land from 1953 (the date of the previous survey) was 10 percent; the rate of increase does not sound especially impressive but it was two-and-one-half times the national rate. Much of the increase reflected the decline in the use of land for agricultural purposes. More important than the increased acreage are steps which have been taken to improve the quality and density of timber stands including a sharp curtailment of forest fires, selective cutting practices, planting of seedlings, and less destructive methods of extracting resin.

Without these improvements Georgia would be facing a serious depletion of its forest resources. The growing stock of softwood timber (trees of at least five inches diameter) increased very little between 1936 and 1953 and softwood sawtimber stands (trees of at least nine inches diameter) declined in volume. Between 1953 and 1961 the rate of increase for both the softwood growing stock and sawtimber picked up considerably and is continuing today. Even so, there are fewer large, quality trees for lumber and veneer today than 30 years ago. While the annual cut of large sawtimber still exceeds the growth, growth of small sawtimber and pulpwood is greater than the cut.

We believe that future increases in timber growth can be maintained at the rate of the past 15 years. Less idle crop land will become available for tree seeding; but the improved forestry practices of past years should be paying off. Continued trends toward using smaller trees and new uses for poorer quality trees and for wood wastes will enable fuller utilization of timber resources.

Further innovations in forestry practices need to be made although they would have only a small effect on the timber supply by 1985. It has been estimated that better management could more than double the net growth of timber, so that much remains to be done.

Manufacturing

The main hope for above average growth in Georiga lies in further development of manufacturing industries. Even where manufacturing is resource oriented, as with the paper and lumber industries, a much larger contribution to the state's economy comes from processing raw materials than from the value of the extracted natural resource. We have estimated that in 1965 the stumpage value of timber cut in Georgia was $80 million, but the additional value added by further processing in the paper and lumber industries amounted to $471 million.

Having just considered the timber resource base, we will first take up lumber and paper manufacturing, two industries of above average importance to Georgia. Next, we will consider the remaining two industries of above average importance, textiles and apparel. Continuing to follow the format of Table 2, we will move on to those industries of average importance to Georgia and last to those of below average importance.

Lumber and wood products holds the dubious distinction of being Georgia's only major manufacturing industry to have shown a significant loss of position relative to the U.S. in recent years. Between 1957 and 1967 Georgia's employment in this industry declined 17 percent, almost twice the U.S. rate of decline, and in 1954-66 value added by manufacture gained 30 percent compared with a 50 percent national gain. Georgia's inferior performance resulted partly from a poorer product mix within the industry, i.e., concentration in slow growing basic lumber production as opposed to faster growing, more advanced products like plywood, and partly from a poorer showing in lumber production in Georgia than nationally. U.S. lumber production has been essentially flat over the past 20 years; production in Georgia peaked in the early 1950s at over two billion board feet a year, declined to less than one-half this figure in the early 1960s and rose to 1.2 billion board feet in 1966. Georgia's decline resulted in part from the downtrend in large, quality sawtimber.

Most demand studies indicate a brighter future for the U.S. lumber industry, primarily because of an expected upturn in residential construction and despite continued inroads by other building materials into lumber's chief market. While the level of housing starts in any one year is very difficult to project, depending as it does on the availability of mortgage funds, we expect starts in the 1980s to average 40-50 percent above the 1.5 million of recent years.

We expect Georgia to share in the growth of wood products. The proximity to large eastern markets offers an advantage to Georgia in competing with West Coast forest products. While projected stands of sawtimber will enable moderate increases in lumber production, future growth lies more in other products. The technological breakthrough permitting the manufacture of plywood from southern pines has already resulted in new plywood plants in the state and more are expected. Prospects are good for the establishment of particleboard and hardboard (Masonite) plants which utilize wood chips and cull trees. On balance, we expect greater contributions from this industry in the future than in the past 15 years.

The paper industry has been an outstanding source of growth for Georgia over the past 30 years. The state's first pulp mill was established in 1936; in recent years Georgia ranked first among all states in combined paper and paperboard production, accounting for about 7.5 percent of U.S. output. Specifically, the state's supremacy is in paperboard for boxes and construction applications rather than in paper proper.

Domestic demand for paper and paperboard is expected to grow steadily and closely in line with real gross national product. New applications, as in fiber cans, are forecast to offset any loss of market to plastics and other competing products. Exports offer a large potential market.

Georgia cannot look for continuation of the large percentage increases in paperboard production that have occurred in the past. The rise in pulpwood cut from 700,000 cords in 1940 to 5.4 million cords in 1967 has brought the state closer to full utilization of its trees. However, there still exists a margin between annual cut and annual growth, and annual growth is expected to continue to increase. The state also possesses the advantages of water availability and proximity to markets. We believe that Georgia's paper products industry will continue to grow faster than its national counterpart.

The textile mill products industry remains Georgia's largest manufacturing industry both in employment and in value added. The national industry as a whole is expected to show a moderate annual growth rate in output of three to four percent but with divergent trends within different segments of the industry as in the past. Increasing imports are likely to be a major problem.

The increase in Georgia's employment in the industry since the mid-1950s has been due to its large position in tufted rugs and carpets. This segment of the industry is expected to continue to show excellent gains which will benefit the state's relative performance.

Within the remainder of the industry more growth is looked for in knit, bonded, and other nonwoven fabrics than in the traditional woven fabrics, and synthetics will continue to gain at the expense of natural fibers. Georgia has a relatively weak position in the knitting mills and synthetic weaving mills segments of the industry.

On balance, we think that Georgia can better the national industry trend to 1985. However, the large share of manufacturing employment still in this slow growing industry will be a drawback to the state's overall economic performance.

Apparel and other textile products have been a boon to the Georgia economy, accounting for one-fourth of the state's 1957-67 increase in manufacturing jobs. The U.S. industry can hardly look for more than the four percent annual growth in output achieved during the last 10 years. We believe that Georgia can continue to increase its share of the nation's apparel industry, although not at the past rate.

The apparel industry can play an important part in bringing manufacturing to small towns and rural areas because of the relatively low level of skills and small amount of capital required. In fact, it may be the only industry that many towns can attract.

There are four manufacturing industries having about equal importance to Georgia as to the nation. These are food, transportation equipment, stone, clay and glass products, and furniture.

The state's food processing industry is partly market oriented, e.g., bakery and dairy products, and partly resource oriented, e.g., poultry processing. The faster increase expected for consumer incomes in Georgia than nationally indicates slightly above average gains for the market oriented segment of the state's food industry and the trend toward more in-plant processing of poultry is favorable for the other important sector. We believe growth of the state's industry can slightly exceed that of the U.S.

The transportation equipment industry in Georgia is concentrated in three companies — Lockheed-Georgia with over one-half of recent employment in the industry and General Motors and Ford with over one-quarter. The future of the aircraft segment is highly important to the state's industry but extremely hazardous to predict. It depends upon federal aerospace procurement policies and Lockheed's ability to secure its share of government contracts or to develop commercial applications for its planes. Consistent with our assumptions regarding defense expenditures, we believe that it would be imprudent to look for higher employment in the state's aircraft industry in 1985 than presently, but this would not necessarily mean a decline in the state's share of the national total.

Prospects appear good for further expansion in the state's auto assemblies by the existing two manufacturers and through the possible establishment of a Chrysler plant. In recent years the Atlanta plants have turned out 400,000 to 500,000 cars while combined GM and Ford sales in Georgia, South Carolina, Florida, Alabama, Tennessee, North Carolina, and Mississippi have averaged over 800,000. Chrysler's sales in these Southeastern states have run around 175,000 which is sufficient to support a plant. Thus, there appears room in the present market for expanded output in the Southeast without allowing for future market growth in the area which is likely to exceed national growth.

Combining the outlook for autos and minor segments of the industry and our assumption that 1985 employment in the state's aircraft industry will be close to current levels, we conclude that the total industry in Georgia will exceed the U.S. growth rate. However, we expect that the state's rate of increase will be less than in the past 10 years.

Within the stone, clay, and glass products industry the largest segment, concrete and structural clay products, is closely tied to construction, for which the longer term outlook is good. Another important part is engaged in processing the nonmetallic minerals (e.g., kaolin, feldspar) in which Georgia has a good resource base.

In recent years Georgia has not quite held its own relative to the U.S. in the furniture and fixtures industry in terms of employment but has done a little better by other measures. The state does not seem to have capitalized fully on its advantages of a hardwood lumber supply, low labor cost, and the promotion afforded by the Atlanta Merchandise Mart. We think Georgia may do a little better in the future.

Our analysis of those major manufacturing industries which are of above average or average importance to Georgia indicates that the state has a good chance of exceeding national growth rates of output and employment in all eight. This is an auspicious outlook, but it is tempered by the moderate growth expected in these industries for the U.S. as a whole. In 1957-67 the eight industries most important to Georgia had combined gains in U.S. employment of only 4 percent; all other manufacturing industries, including four of below average importance listed in Table 2, and others even less important to Georgia had combined gains of 21 percent. A similar pattern is expected in the future.

Thus, Georgia not only will have to exceed national growth in those industries of relative importance to it but also will have to maintain or better its margin of increase over the U.S. in those fast growing industries in which it has a lesser position. Most of the fast growing industries, such as chemicals, drugs, electronics, and office equipment, can be characterized as high technology industries. Georgia will have to produce more technically trained workers and make itself an attractive place to live for out-of-state engineers.

We think that Georgia can better U.S. growth rates and improve its relative position in the machinery, metals, printing and publishing, and chemical industries.

The growth of manufacturing and construction and continued mechanization of agriculture in Georgia and the Southeast provide an inducement to location of machinery plants in the state. Georgia's lengthening history as an industrial state and its enlarged vocational training program should help provide a source of skilled craftsmen, an important factor for the machinery and for the fabricated metal products industries. Within the electrical machinery group the absence of a major appliance plant and the state's distributional advantages make Georgia a likely location. The planned Western Electric cable plant in Gwinnett County will add over 10 percent to state employment in fabricated metals.

The closing of the educational and cultural gap should benefit the newspaper and periodical sectors of the state's printing and publishing industry. Book publishing is highly concentrated in the old cultural centers and will probably be slow to diversify geographically. The remaining sectors of the printing industry should move upward in line with overall business in the state and Southeast.

Georgia's chemical industry has heavy concentration in agricultural and gum and wood chemicals but is weak in basic chemicals, plastics, and drugs. The lack of an important mineral base will be a deterrent to development of the industry. Prospects are best for expansion in formulated chemicals for which distributional advantages are important. The state's weak position in synthetic fibers is rather mystifying in view of the state's textile industry and the establishment of fiber plants in adjoining states. We think that prospects are good for more rapid development of this segment of the state's chemical industry.

Military Expenditures in the State's Economy

We have already commented on Georgia's stake in military expenditures through their effect on Lockheed. While the vulnerability of having the state's largest employer dependent on one or two contract awards cannot be dismissed, the manufacture of military goods in toto is not much above average importance to the state's economy.

Military bases with their large flow of payrolls to both military and federal civilian personnel constitute a dynamic factor of even greater absolute and relative importance to Georgia's economy than Lockheed. In 1968 military payrolls of almost $700 million made up 5.4 percent of total state personal income; the comparable ratio for the entire U.S. was 2.1 percent. Payrolls of civilians employed at military bases (almost $300 million in 1967) were about twice as important to Georgia as to the U.S.

We have previously set forth our assumptions for U.S. defense expenditures in 1985. Experience since 1950 suggests that Georgia will at least maintain its share of total U.S. military payrolls. We suggest that in real terms the state's military payrolls in 1985 might not be much different from the present, but with their share of total state income shrinking to around 2.5 percent.

The military industry as a whole is quite clearly of greater present relative importance in Georgia than in the U.S. The rather flat prospect implied for this industry would therefore have a negative effect on Georgia's chances of increasing its share of the total U.S. economy.

Dynamic Aspects of Other Industries

We mentioned earlier that significant portions of Georgia's wholesale trade, transportation, communications, finance and federal non-military industries could be characterized as dynamic in the sense that they serve areas outside of the state to an important degree. Specifically, the dynamic portions of these industries include national and regional headquarters of corporations and of U.S. government departments and agencies; terminal facilities of transportation companies, including railroads, airlines, and truckers; sales of wholesalers to out-of-state customers; and services provided by commercial banks to out-of-state correspondent banks and other customers and by the Federal Reserve Bank of Atlanta.

The importance of these industries to Georgia's past relative growth is clearly shown by Table 6 which gives a picture of the relative importance of various industry groups to the economies of Georgia and the U.S. in 1967. The table also compares Georgia's 1967 share of U.S. employment for each industry with its share at an earlier date.

Georgia's largest gains in share of U.S. employment have been in the subtotal comprising wholesale trade, transportation, communications, federal government, and finance.

Atlanta in particular enjoys a natural location advantage in the heart of the Southeast which has fostered its development as a regional center. Excellent facilities for transporting goods and people have both resulted from this location advantage and enabled its exploitation. We expect Atlanta and Georgia to continue to benefit from the growth of the Southeast.

Non-dynamic Sectors of the Economy

Most of the retail trade, services, construction, electric and gas utilities, and state and local government industries are engaged primarily in providing goods and services to the consumers and businesses of Georgia. The same is true for parts of the industries listed in the middle portion of Table 6. Future trends of these non-dynamic sectors will be strongly influenced by future trends in the dynamic industries (agriculture, mining, and manufacturing) and in the dynamic portions of wholesale trade, transportation, etc.

The relationship between dynamic and non-dynamic trends is by no means mathematically precise, however, especially when measured by employment. Productivity gains have tended to be greater in the dynamic areas (especially manufacturing and farming). And the U.S. economy over time has tended to becoming more service oriented, in part reflecting the increase in leisure time.

As shown in Table 6 Georgia experienced its best gain in share of total U.S. employment in the significantly dynamic group (wholesale trade, etc.), its next best in the dynamic group (manufacturing, etc.), and the smallest gain in the non-dynamic group (retail trade, etc.). In actual employment, however, Georgia's greatest gain from 1957 to 1967 was in the non-dynamic group (+45 percent), next best in the significantly dynamic group (+40 percent) and poorest in the dynamic group (+ two percent, with a drop of almost half in agriculture largely offsetting a rise of nearly one-third in manufacturing).

A special word is in order with respect to Georgia's service industry. Absolute employment growth from 1957 to 1967 was substantial (44 percent), but in this recent decade Georgia lost position relative to the U.S. total just as it had done persistently since 1939. This loss in position in services is puzzling in view of Georgia's strong relative gains in most other industry groups and in its total economic position. An analysis of payrolls of the service industry in 1968 reveals that Georgia was especially weak in services to business, including advertising, in commercial amusements and recreational activities, and in professional and social services. Even the advent of major league sports and large national conventions has not reversed Georgia's slower growth in the service field. There would seem to be the potential for a gain in position in the years ahead simply to bring this industry more into line with the state's share of U.S. total in other fields of activity oriented toward internal markets.

Miscellaneous Factors Affecting Future of Georgia's Economy

In the preceding section we have presented qualitative appraisals of the outlook for Georgia's major industrial groups. In this section we discuss five factors that largely cut across industrial lines but which also have an important bearing on the future relative trend of Georgia's economy. Three of these are discussed quite briefly and to some extent constitute repetition of points touched on earlier in the paper. In one case the discussion includes an expansion of information. The final factor, dealing with business climate, has not been discussed earlier.

Concentration in Slow-growing Industries—An obstacle to Georgia's bettering the national economic trend is the state's continuing above average dependence on industries with below average growth trends. The previous decline in relative importance of such slow growing or downtrend industries as cotton textiles, lumber, and agriculture has already lessened the importance to Georgia of the slow growing industries; but the problem remains and its existence will serve as a drag (but not a roadblock) to Georgia's future relative economic growth.

Concentration in Low Value Added and Low Pay Industries—Another special problem for Georgia's economy has been the relatively high proportion of employment in industries characterized by below average value added and pay per employee. Even within many individual manufacturing industries pay rates in Georgia are below the national average for the same industries.

To illustrate this latter point we have compared average hourly earnings of production workers in Georgia and in the U.S. as a whole for June 1969. For all manufacturing the Georgia average of $2.51 was 21 percent below the U.S. average of $3.17. In part this was due to Georgia's heavy dependence on industries (such as textiles, lumber, and furniture) which nationally had pay rates below the average for all manufacturing. But of 14 individual manufacturing industries Georgia was far below (21 percent to 25 percent) the national industry average for five, significantly below (15 percent to 18 percent) for five and close to the national average (—5 percent to +5 percent) for only four (paper, electrical machinery, transportation equipment, and textiles). Ten years ago Georgia's negative gap was even larger for most of these industry groups.

Many factors underlie these differences—including product mix within the industries, lower living costs, and possibly less successful unionization efforts. We suggest that product mix is the most important single factor.

In the process of economic development, it is characteristic that in a shift from an agrarian to an industrial economy the manufacturing industries that naturally develop first are those requiring relatively large inputs of semi-skilled labor. This happened in Georgia and it is still happening (as witness the location of garment plants in numerous small towns and rural communities of the state). As industrialization continues new industries gradually come in, but it is usually the parts of those industries requiring the simple skills and producing unfinished and semi-finished goods rather than more complex goods ready for final consumption or use. The chemical industry, usually thought of as a complex industry with high value added and high pay, helps illustrate the point. In Georgia the chemical industry is heavily weighted by fertilizer plants, one of the industry's least complex segments and generally requiring a relatively low order of skills in its workers.

The evolution toward production of goods embodying higher technology is moving apace in Georgia. This is manifested in a changing industry mix and in a changing product mix within industry and is evidenced by such facts as now having half of the state's factory employment in industries with value added per employee equal to or above the U.S. average for value added per employee and the narrowing of pay gaps within industries during the past 10 years. The future outlook is brightened by above average growth prospects for the industries with high value added and high pay and requiring higher skills. That is, the future outlook is brightened if we can develop the required skills through education and training.

The Small Town and Rural County Problem—Another important factor affecting Georgia's economic future is the question of what will happen to those counties without major towns or cities. As noted earlier, the shift away from cotton growing left many of these counties without viable economies and resulted in widespread population declines. Such tendencies were quite marked as recently as 1960. On the other hand, there is some evidence that these counties are striving to revitalize their economies and apparently with some success. We have already called attention to U.S. Department of Commerce population estimates which indicate a rise in population of Georgia's small counties since 1960 in marked contrast to decreases reported in the last several censuses. We can also get some measure of income trends from reported payrolls in industries covered by the Georgia Employment Security Law. In 1959 the 135 non-metropolitan counties without a town of 15,000 accounted for 22.3 percent of Georgia's total payrolls in such industries. In 1968 this ratio was 21.9 percent, which suggests that the smaller counties in the aggregate largely held their own economically in the past decade.

We are not qualified to propose solutions for this persistent problem. Hopefully, the combination of a reservoir of trainable labor, the activities of industrial development agencies (both public and private), and careful planning by the state's relatively new area development councils will be successful in attaining solutions.

The Racial Disparity Problem—We believe it should be obvious to all that having one-fourth of the state's population able through education, training, and opportunity to earn only half as much as the other three-fourths has been and is a distinct economic drag on the three-fourths. With respect to education the problem is long term. With respect to training the problem can be improved more quickly. Already there has been a considerable change in opportunity for qualified blacks and more widespread opportunities seem certain. With continuing gains in education and training which we expect, the better utilization of the economic potential of Georgia's large Negro population should be a distinct plus for Georgia's economy over the next 15 years.

Business Climate—Georgia, like many areas in the relatively early stages of industrialization, is a capital-deficit area. Our internal wealth has grown in recent decades, but we are still highly dependent on investment of capital by outsiders to finance large new industrial plants or expansion of existing facilities. This is true with respect to capital-intensive industries oriented either toward natural resources (e.g., pulp mills) or toward markets (e.g., regional plants of large national manufacturers and distributors). The problem of dependence on outside capital has become even greater in the past year or so because of recently imposed limitations on the tax-exempt status of revenue bonds issued by industrial authorities.

Outside capital is quite sensitive to the state and local business climate. For maximum attraction of outside capital a favorable climate is highly desirable in such matters as state and local taxation, integrity in state and local governments, government's attitudes toward business and the electorate, attitudes of government and business on racial problems, quality of schools, cultural opportunities, etc. Georgia's success in attracting outside capital would suggest that it has been accorded a favorable overall rating on business climate recently. It is important that this rating be retained and improved.

Summary of Georgia's Strengths And Weaknesses with Respect To Increasing Further Its Share Of the National Economy

Heretofore in this paper we have discussed many aspects of Georgia's economy with the focus on determining whether the state in the future will decrease, maintain or increase its share of the U.S. economy. In this section we shall summarize the strengths, the weaknesses, and the opportunities for converting weaknesses into strengths, all headed toward arriving at an overall judgment.

Strengths

- The preponderant portion of the ultimate decline in Georgia agricultural employment is already behind us. Earlier declines have been a serious drag on gains in Georgia's total employment. Farm employment is now such a small part of the total that further declines, should they occur, can easily be overcome by gains in non-farm employment.
- Georgia's agriculture is now highly diversified, which provides a safeguard not present when cotton was king.
- Manufacturing has become much better diversified, with increasing dependence on industries which are faster growing and which have higher value added per employee and higher pay per employee.
- Georgia occupies a strategic location in the center of the rapidly expanding Southeastern market. This fact has highly favorable implications for superior growth in market oriented manufacturing plants and in regional centers for wholesale distribution, communications, transportation, finance, and federal government.

- In the natural resource area Georgia has strength in its trees (and their ability to grow rapidly), its water, its climate and its great variety of recreational facilities.

Weaknesses

- Georgia is lacking in known major mineral resources.
- Georgia is faced with possible declines in two of its important crops, cotton and tobacco. This vulnerability is tempered by the facts that these two crops combined currently account for only one-ninth of the state's cash income from farm marketings and agriculture as a whole now accounts for less than four percent of the state's total personal income.
- Textiles, lumber, and other industries which are slow growing and have relatively low value added and relatively low pay rates still account for an above average proportion of Georgia's total factory employment. This weakness is minimized somewhat with respect to textiles because this industry group includes the rapidly growing carpet industry which is located predominantly in Georgia.
- Georgia's economy would be adversely affected by a sharp reduction in military expenditures because of the state's above average dependence on military payrolls and the presence of the large aircraft assembly plant at Marietta. To place some order of magnitude on this vulnerability it may be noted that in 1968 combined total payrolls for all military personnel in Georgia and all employees at the Marietta plant were about $900 million, approximately seven percent of the state's total personal income. In projecting the state's personal income in 1985, we assume that there will be no major decline in this component of Georgia's economy, but it is a vulnerability worth noting. Our projections do allow for a decline in the proportion of total personal income derived from military payrolls and other defense related income.

Opportunities

- The problem of the small town-rural counties is a present weakness, but if ways can be found to bring appropriate industry to the available supply of labor it could be converted into a strength.
- Existing racial disparities constitute another important weakness in the Georgia economy, but as noted earlier, we expect a lessening of the disparities and believe that our above average proportion of Negro population can become a factor of increased economic strength.
- Georgia's below average development of service industries which nationally are characterized by above average growth is another present economic weakness for the state that offers the potential for substantial improvement.

Conclusion

We recognize that a considerable degree of subjectivity is involved in the attempt to draw a single conclusion from the various and conflicting factors outlined above. Nonetheless we have no hesitation in expressing the judgment that the strengths outweigh the weaknesses. We confidently expect Georgia's economy to continue to grow faster than the national economy. A quantification of this conclusion will be presented in the next section in which we make a projection of Georgia's personal income in 1985.

Projections of Income In 1985

Earlier in this paper we projected U.S. personal income for 1985 at $2,000 billion including an allowance of 40 percent for projected increases in the general price level. With an assumed population then of 247 million (roughly midway between the Bureau of Census Series C and Series D projections), the indicated U.S. per capita income would approximate $8,100.

How will Georgia's figures compare with these national figures in 1985? The whole burden of the preceding discussion leads to the conclusion that Georgia will continue to increase its share of the national economy. In the most recent 15 year interval (1953-68) Georgia increased its share of U.S. personal income from 1.60 percent to 1.86 percent or an average of 0.017 percentage point a year; in the most recent 10 year interval (1958-68), the average annual gain was 0.025 percentage point; in the most recent five-year interval (1963-68), the average annual gain was 0.030 percentage point; and in the most recent one year span (1967-68) the annual gain was 0.011 percentage point. We suggest that annual gains of 0.020 to 0.025 percentage point are quite possible for the future, but we choose a gain of 0.015 percentage point as a safer expectation. As compared with 1.86 percent in 1968 this would point to a ratio of 2.11 percent in 1985.

Applying this ratio to the projected U.S. total of $2,000 billion implies total Georgia personal income in 1985 of about $42 billion, quite a jump from an estimated $14 billion for 1969. Allowing for a 40 percent price increase, Georgia's personal income in 1985 in terms of 1969 dollars would be indicated at $30 billion, roughly 115 percent higher than in 1969.

Georgia's population in 1985, on a basis consistent with the trends suggested in this paper, is indicated at about 5.6 million. Dividing this number into the projected total personal income would indicate per capita income of Georgians in 1985 of $7,500, some 92.5 percent of the projected U.S. per capita. Again allowing for a 40 percent price increase, Georgia's per capita income in 1985 is indicated at about $5,360 in terms of 1969 dollars, or about three-fourths higher than estimated per capita income in Georgia of $3,040 in 1969.

Implications of Georgia's Projected Economic Trends for Georgia's Educational Requirements

The picture of Georgia's future economy drawn in this paper is one of substantial absolute growth and of continuing relative growth. As pointed out earlier, our estimates for Georgia depend primarily on the correctness of our projections for the U.S. Thus, if we had assumed that Georgia would merely maintain its present share of the U.S. economy, our projections for Georgia's personal income in 1985 would have been $37 billion in current dollars (instead of $42 billion) and $26.5 billion in 1969 dollars (instead of $30 billion). In other words, the value of Georgia's projected gain in share of the U.S. economy is placed at $5 billion in current dollars and $3.5 billion in 1969 dollars, roughly 17.5 percent and 21.5 percent respectively, of the total projected gains from 1969 to 1985. In rounded proportions, therefore, we can say that four-fifths of Georgia's economic gains to 1985 will come from performance of the national economy and one-fifth from superior performance of Georgia's economy.

It is our judgment that education has a vital role to play in making it possible for the state to equal (or preferably to exceed) our economic projections. This is especially the case with respect to the one-fifth based on superior performance.

The close correlation between education and economic progress is well known and needs no elaboration here. It also goes virtually without saying that high on any list of educational goals would be the highest possible quality of broad education for all and the opportunity for each individual to attain his highest potential. But there are five special factors to which we call attention briefly in concluding this paper; we believe these five factors are integral to attaining or surpassing the economic projections set forth above.

- *Students, especially those headed for higher education, need preparation for coping with problems rather than training for specific skills.* Rapid change is the order of the day, and narrow training for specific skills will become outmoded. Students who are prepared to adjust to new problems and new methods will be best able to implement Georgia's continuing economic progress.

- *Within the field of vocational education the emphasis should be shifted drastically toward training for industrial employment.* As recently as the early 1960s, according to a study of Georgia Tech's Engineering Experiment Station, Georgia was spending 73 percent of its vocational funds (excluding home economics) on agricultural training. Since then Georgia has made a strong effort to improve and broaden its nonagricultural vocational education. But we suspect that a disproportionate share of total vocational funds still goes for agricultural training. In no sense do we minimize the excellent job accomplished in agricultural training. We simply point out that the state's economy has shifted drastically away from agriculture and that there has been a lag in shifting the distribution of available vocational funds to the degree pertinent to today's and tomorrow's economic requirements.

- *Greater emphasis is needed in training for more complicated jobs requiring more flexible skills.* Our projections suggest that within manufacturing Georgia will continue to depend less and less on industries requiring simple skills and more and more on industries requiring more complicated skills. The same will be true in certain service industries. And within every industry the remarkable growth of automation and near-automation indicates that an increasing proportion of job opportunities will require greater basic knowledge and greater flexibility in adapting such knowledge to specific areas of employment.

- *Special attention is needed to prepare Negroes for a full role in Georgia's economic future.* We emphasized earlier that the one-fourth of Georgia's population that is black with per family or per capita income now only about half that of whites is a source of great opportunity for Georgia's future economic growth. Education has a vital role to play if the state is to capitalize on this opportunity.

- *Increasing emphasis on adult education is a necessity.* In the kind of changing industrial world that we envision there will be little hope for the unskilled and the uneducated, or even the underskilled and under-educated. Those limited in their ability to communicate will be severely handicapped. Adult education can help those who were shortchanged educationally as children and those who were educated adequately for yesterday but who need re-training and re-educating for the more complicated today and tomorrow.

By directing emphasis toward solution of all five of these special problems, Georgia's public education system can can make a vital contribution toward bringing to fruition the continuing growth in Georgia's economy that is projected in this paper.

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Table 1

SUMMARY OF BROAD CHANGES IN GEORGIA'S ECONOMY, 1919-1968

	1919	1929	1933	1940	1950	1960	1968
Personal Income in Georgia							
Billions	$1.21	$1.01	$0.60	$1.05	$3.57	$6.49	$12.71
Percent of U.S. Total	1.75%	1.18%	1.28%	1.34%	1.58%	1.63%	1.86%
Per Capita Income in Georgia							
Actual	$417	$349	$204	$336	$1,034	$1,639	$2,781
Percent of U.S. Average	64.0%	49.5%	54.3%	56.8%	69.2%	74.0%	81.3%
Ratio Farm Population to Total Population							
U.S.	29.8%[1]	24.5%[2]		22.9%	15.3%	7.5%[3]	
Georgia	58.3%[1]	48.6%[2]		43.7%	27.9%	10.3%[3]	
Ratio Urban Population to Total Population							
U.S.	51.2%[1]	56.2%[2]		56.5%	64.5%[4]	69.9%[4]	
Georgia	25.1%[1]	30.8%[2]		34.4%	45.3%[4]	55.3%[4]	
Agricultural Income[5] Per Dollar of Factory Payrolls							
U.S.	$0.85	$0.43	$0.38	$0.34	$0.30	$0.16	$0.12
Georgia	$3.47	$1.33	$1.05	$0.92	$0.50	$0.25	$0.16

Sources

All figures are derived from data published by U.S. Department of Commerce except 1919 figures related to personal and per capita income (which are from National Bureau of Economic Research).

[1] Ratios apply to data for 1920.

[2] Ratios apply to data for 1930.

[3] Farm population for 1960 based on definition narrower than that used in earlier years.

[4] Urban population for 1950 and 1960 based on definition more inclusive than that used in earlier years.

[5] The term "agricultural income" or "farm income" as used in this table and in the text refers to that component of total personal income that derives from farming. It consists principally of net income of farm proprietors and wages paid to farm workers. It should not be confused with the term "cash farm income" which consists mainly of gross cash receipts from marketing of farm products.

Table 2
EMPLOYMENT IN MANUFACTURING INDUSTRIES

Of Above-Average Importance in Georgia	Change 1957-67		% of Total in 1967	
	Ga.	U.S.	Ga.	U.S.
Textile Mill Products	+11%	− 2%	25.6	4.9
Apparel, etc.	+63%	+16%	15.4	7.2
Lumber	−17%	− 9%	6.0	3.1
Pulp and Paper	+40%	+19%	5.4	3.5
Sub-Total	+20%	+ 6%	52.4	18.7
Of About-Average Importance in Georgia				
Food and Kindred Products	+21%	− 1%	11.2	9.2
Transportation Equipment	+46%	+ 2%	10.2	10.0
Stone, Clay and Glass Products	+56%	+ 6%	3.2	3.2
Furniture and Fixtures	+19%	+22%	2.2	2.3
Sub-Total	+33%	+ 3%	26.8	24.7
Of Below-Average Importance in Georgia				
Machinery (Including Electrical)	+77%	+34%	5.1	20.2
Primary and Fabricated Metals	+98%	+ 6%	4.9	13.8
Printing and Publishing	+47%	+20%	3.1	5.4
Chemicals	+40%	+24%	2.9	5.2
All Other Manufacturing	+82%	+20%	4.8	12.0
Sub-Total	+71%	+21%	20.8	56.6
TOTAL MANUFACTURING	+32%	+13%	100.0	100.0
U.S. Industries Showing 1957-67 Gains of				
6% or Less	+20%	+ 1%	61.1	44.2
16% or More	+58%	+25%	38.9	55.8
TOTAL MANUFACTURING	+32%	+13%	100.0	100.0

Sources: Derived from data published by U.S. Department of Labor and Georgia Department of Labor.

Table 3

GEORGIA'S CASH INCOME FROM FARM MARKETINGS AND PERCENTAGE DISTRIBUTION BY MAJOR PRODUCTS

	1929	1940	1950	1960	1968
Total Cash Income from Farm Marketings (Millions)	$223	$148	$528	$757	$1,039
Percentage Distribution					
Cotton (Including Seed)	58.7%	38.7%	21.9%	11.6%	3.8%
Tobacco	7.5	8.4	9.6	10.2	7.4
Peanuts	3.6	12.2	13.1	7.0	10.7
Peaches	3.7	3.9	0.6	1.4	1.2
Truck Crops	3.1	2.8	3.0	2.4	3.9
Forest Products	2.2	3.4	6.9	3.7	2.2
Pecans	0.4	1.6	2.2	1.5	1.5
Other Crops	4.3	6.5	7.6	6.1	9.3
Sub-Total Crops	83.5	77.5	64.9	43.9	40.0
Hogs	3.5	5.3	8.3	7.2	7.1
Dairy Products	5.6	7.0	7.0	6.8	6.2
Cattle and Calves	2.5	4.1	6.1	7.1	8.9
Poultry	1.7	2.6	9.8	23.5	20.9
Eggs	3.0	3.3	3.6	11.3	16.7
Other Livestock and Products	0.2	0.2	0.3	0.2	0.2
Sub-Total Livestock and Products	16.5	22.5	35.1	56.1	60.0
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

Source U.S. Department of Agriculture.

Table 4

GEORGIA AS PERCENT OF U. S. TOTAL IN SPECIFIED ECONOMIC MEASURES

	1939	1948	1958	1963	1967
Retail Sales	1.49%	1.62%	1.76%	1.87%	1.97%
Wholesale Sales	1.45%	1.73%	2.01%	2.25%	*
Commercial Banks					
Total Deposits	0.85%	1.16%	1.26%	1.31%	1.45%
Banking Capital	0.96%	1.09%	1.33%	1.38%	1.62%
Savings and Loan Association Savings	0.61%	1.40%	1.61%	1.55%	1.59%

*Not yet available.

Sources: Derived from data originally published by U.S. Department of Commerce, Federal Reserve Board, Federal Deposit Insurance Corporation, and Federal Home Loan Bank Board.

Table 5

POPULATION OF GEORGIA COUNTIES BY GROUPS

Groups*	No. of Counties	Thousands of Inhabitants			Change from 1940 to 1960
		1940	1950	1960	
Counties in Metro Areas	13	1,004	1,334	1,814	+80.7%
Counties with Largest City of					
25,000 to 50,000	3	116	135	164	+40.7%
15,000 to 25,000	8	247	283	309	+24.9%
10,000 to 15,000	7	183	190	199	+ 8.8%
5,000 to 10,000	22	437	435	424	− 3.0%
All Other Counties	106	1,136	1,067	1,033	− 9.1%
TOTAL	159	3,124	3,445	3,943	+26.2%

*Counties grouped according to population status in 1960.

Source: Derived from data of U.S. Bureau of the Census.

Table 6

TOTAL CIVILIAN EMPLOYMENT

(Excludes Domestics and Non-farm Self-employed)

	% of Total in 1967		Ga. as % of U.S.	
	Ga.	U.S.	1957	1967
Agriculture	7.5	6.9	2.75	2.28
Mining	0.4	0.9	0.66	1.06
Manufacturing	29.2	27.4	1.93	2.25
Sub-Total (Mostly "Dynamic")	37.1	35.2	2.13	2.23
Wholesale Trade	5.9	5.0	2.15	2.46
Transportation	4.0	3.7	1.91[1]	2.25
Communications	1.5	1.4	1.87[1]	2.30
Federal Government (Civilian)	5.6	3.8	2.75	3.09
Finance, Insurance and Real Estate	4.4	4.5	1.77	2.06
Sub-Total (Significantly "Dynamic")	21.4	18.4	2.11[1]	2.44
Retail Trade	13.6	14.2	1.92	2.00
Services	10.4	14.2	1.61	1.55
Contract Construction	5.0	4.5	1.73	2.34
Electric and Gas Utilities	0.8	0.9	1.72[1]	1.98
State and Local Government	11.7	12.6	1.98	1.96
Sub-Total (Mostly "Non-Dynamic")	41.5	46.4	1.82[1]	1.89
TOTAL EMPLOYMENT	100.0	100.0	1.99	2.11

[1] 1961 data used as earliest available; sub-totals represent mixture of 1957 and 1961 data.

Source: Derived from data published by U.S. Departments of Labor and Agriculture and Georgia Department of Labor.

Chart 1

DISTRIBUTION OF EMPLOYMENT

(Excludes Domestics and Non-farm Self-Employed)

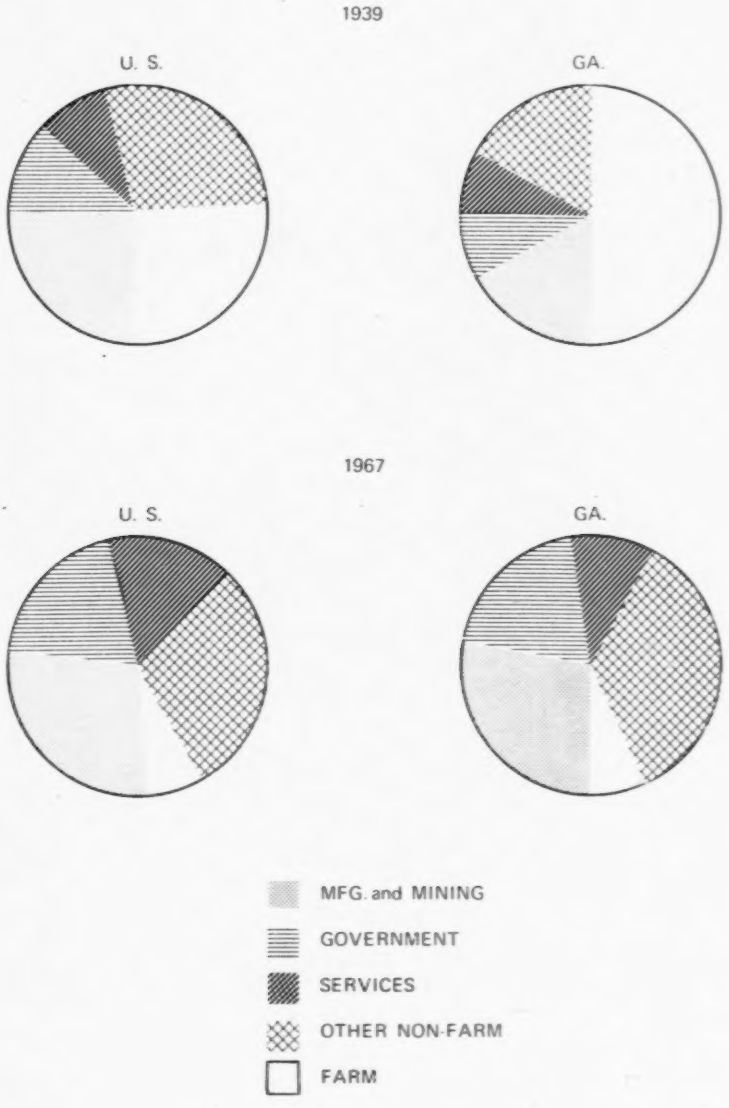
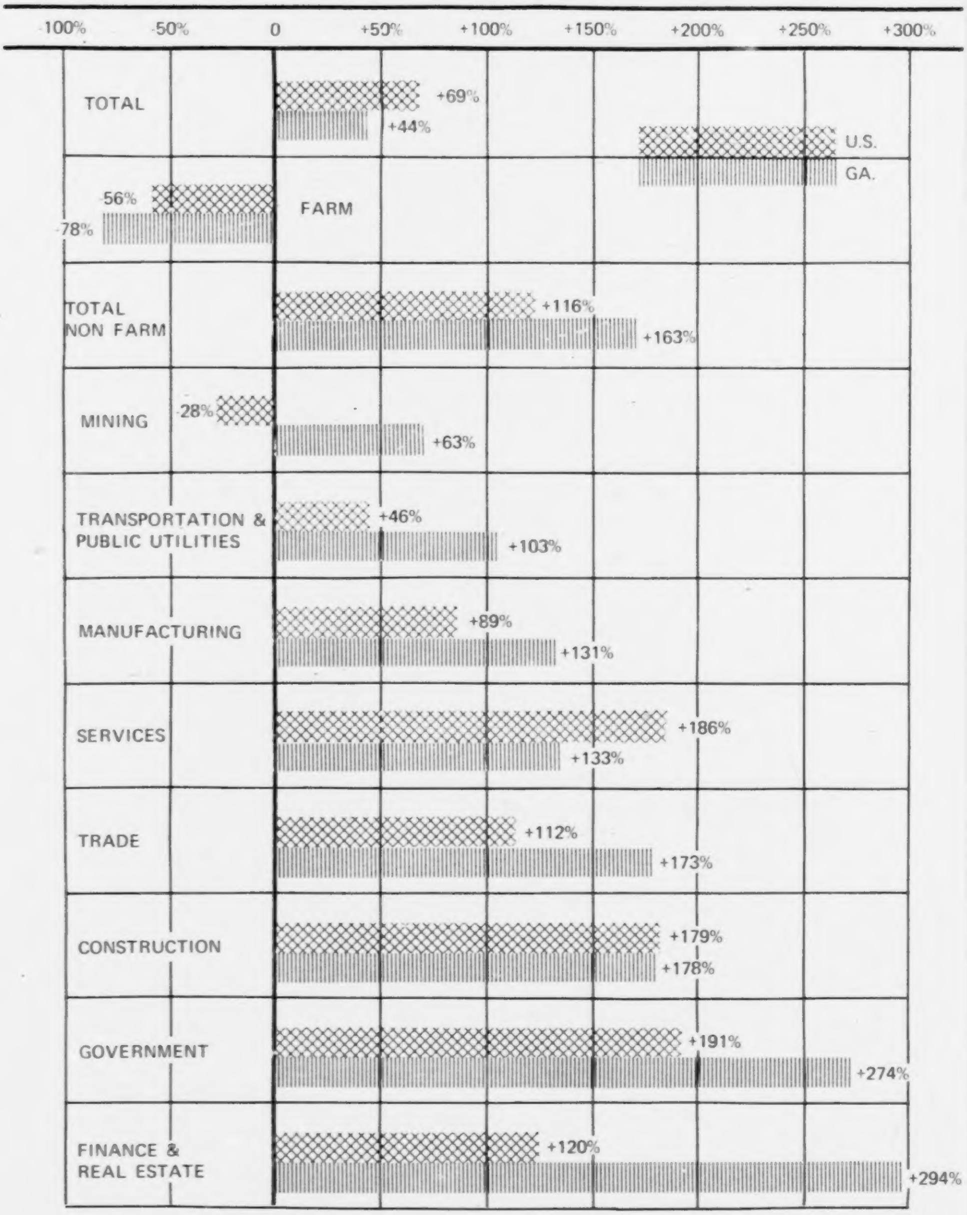


Chart 2
EMPLOYMENT CHANGES 1939 - 1967
(Excludes Domestics and Non-farm Self Employed)



critique:

Economy of Georgia

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ECONOMISTS generally assign a priority position to national, regional, and urban development patterns when appraising economic growth processes. Heyman and Minter assign such priority in a quite meticulous demonstration of historical developmental trends. In real terms Georgia's economic growth is pictured as growth in the output of the state's economy. Such growth is measured in terms of output on a total and a per capita or a per worker basis. Heyman and Minter consider past changes that have taken place in the economic and social structure of the state as measured by changes in the composition of the population, the changing product mix, and the dramatic shift of the labor force from agricultural to non-agricultural and industrial employments. The authors focus on Georgia's past performance as compared with the national economy.

The authors demonstrate that Georgia has in recent decades been gaining in its economic efficiency and output relative to the national average. This relative gain is demonstrated by data illustrating and comparing total personal income, per capita income, retail trade, bank deposits, and personal savings among other economic indices. These data are used to analyze and reflect shifts that have taken place in the economy of Georgia, e.g., the reversal in rural-urban population ratios, the reversal in agricultural-industrial employment concentrations, the higher levels of earned income (the regional product measure) resulting from gains in economic efficiency, improved productivity, and rising value added per worker, a changing product mix, and, in general, an economic environment more conducive to economic development. Reflecting these changes Georgia has become more economically diversified and less vulnerable to recession in any one economic sector as occurred when the boll weevil devastated the state's prime source of earned income during the decade of the twenties. Georgia's water, forests, and climate, its varied recreational opportunities and facilities, its central geographic location as a transportation hub, and other advantages including education, which make Georgia a good place in which to work and live, are combining to make Georgia increasingly attractive to entrepreneurs seeking economic opportunities for business development and expansion.

Heyman and Minter "confidently expect Georgia's economy to continue to grow faster than the national economy." This is, in effect, the substance of their forecast. They expect that change, in general, will continue and in setting forth quite specific educational and training type goals support the thesis that education provides the prime means to facilitate adjustment to a changing economic environment and to maintain that flexibility necessary to sustain economic growth. On the less optimistic side, the authors note a concentration of employment in low wage, low productivity industries in Georgia comprising 61 percent of its total employment in manufacturing compared with 44 percent for the nation. The relatively less favorable industrial mix poses quite serious problems for Georgia. Even though gains in the regional economy outstrip those of the nation, Georgia is gaining in economic endeavors which are losing in relative efficiency, earning potential, and importance in the national economy. New England, for example, which lost much of its textile industry during the post-war period, is making little or no effort to induce return of the industry. Instead, the region has turned successfully to more dynamic, space-age industries in which economic productivity, value added, and income earning potential far exceed what was lost when textiles migrated south.

As regards income generation in Georgia, Heyman and Minter adopt a straight line arithmetic projection assuming an annual gain of 0.015 percentage point. This assumption is acceptable if the regional-national patterns and economic relationships remain substantially the same. If the $2,500 billion G.N.P. and $2,000 billion personal income projections for the nation are correct, then the projections for the economy of Georgia are within acceptable limits. As a matter of computational comparison, the Joint Economic Committee of the U. S. Congress, using a 4.0 and 4.5 percent annual growth rate for real G.N.P. and a 1.5 percent annual price increase factor, 1966-1975, projects a $1,205 billion (low) to $1,310 billion (high) G.N.P. for 1975. Estimates made by the authors of $2,500 billion for G.N.P. in 1985 would double the C.E.A. projection in 10 years.

Heyman and Minter project that 80 percent of Georgia's economic gains to 1985 will spill over from the performance of the national economy and 20 percent from superior economic efficiency and performance in the economy of Georgia. Based on past trends this seems a sound conclusion. However, the industrial mix implications show Georgia gaining in slow growth, low pay segments of the economy. If this concentration is not diverted, Georgia will tend to fall behind even as the state economy becomes relatively more efficient in less vital economic pursuits.

The authors of this paper are to be commended for their analyses of Georgia's development. The "look ahead," however, needs a more precise pinpointing if it is to provide a reliable and helpful guide in formulating a broad set of educational goals.

The critical necessity that Georgians discuss the interrelationships of long term goals in this instance, goals for the regional economy and education, stem from two prime factors, the accelerating interdependencies of the national, regional and state economies, and the rapid development of a changing technology which dominates change in work and life styles. These two points are basic to an economic analysis, and consideration of them allows one to detect the broad outlines of what may be expected to take place in the years ahead to 1985.

We can be sure that Georgians will aspire to a better, fuller, richer, more comfortable, and satisfying way of life. We can also be sure that technology will affect work and life styles at an ever accelerating pace. We can predict with confidence that Georgia's economic environment will be shaped, as in the past, by human aspirations interacting with technology.

By tying aspirations to economic achievement the discipline of economics is tied to the behavioral sciences. There is no simple economic future but rather, there is a FUTURE in which economic affairs and performance are a part. In my experience it has become clear that economic development cannot be separated in modern political economies from the achievement of specific social objectives. This is as true for the region as it is for the nation and applies to economically advanced as well as to undeveloped regions and nations. Aspirations are reflected in the demands for quality education.

Economic development provides material means for achieving social goals such as raising educational levels; social objectives, in turn, define the need for economic development. In this spectrum of social aspiration, Georgians are looking ahead to improved standards and achievements in education, health, housing, recreational facilities, transportation, and community provided amenities. Expectations include also a lessening of environmental pollution caused by "external dis-economies" of our political economy and income, vocational training assistance to maintain high standards of economic citizenship, and high levels of participation in economic income generating activities. Beyond social aspirations reflected in economic development are the rights Georgians expect, the right to opportunity, the right to privacy, the right to participate in augmented economic flows, all of which are prone to be elusive if we do not attain and sustain a viable regional economy and a quality education for all.

There is general recognition among economists of the crucial role played by technological innovation in economic development. There is a growing disposition to consider organized research and development as an investment in new knowledge. Dissemination of this knowledge through the many facets of the education process is truly an investment in human capital development equivalent in a broad sense to capital investment in physical technology. Many economists equate technical progress to physical innovative technology and to education and system technology. The aspirations of men are apparent in each.

Implicit in this paper is recognition that the nature of the economy of Georgia is a reflection of the goods and services Georgia produces and sells to the rest of the world. Export demands generate jobs and income directly and constitute primary income generating activities. Income earned is then spent and respent with a multiplying effect so as to create secondary production and service jobs which create additional income and serve the needs of households and businesses in the region. Critically important in this regard is the capability of the state of Georgia to develop and use its resources, particularly its labor force, effectively to create superior income earning opportunities. In all its nuances this is the complex nerve center of the economic potential of Georgia's economy of 1985.

In an environment of uncertainty and accelerating technological change encompassing broad facets of work and life styles as they relate to industrial, product, and social mixes, forecasting and defining specific goals is hazardous. Not only because they may be wrong but also because they may lead us along faulty paths. We tend to endeavor to make happen what we expect to happen. This is a paradox of forecasting.

The specific educational goals stated by the authors seem to me to be better considered as a by-product of widespread participation by the educational system in the broader community. Rather than set specific training type goals, it seems that flexibility and efficiency are better assured by a continuing interaction of the educational and economic (business and government) communities. Goals for education broadly defined may be reflected in the manner in which the University System of Georgia is tending in its organization structure. Instruction, research, and service are its primary organizational and functional components. Goals defined in these broad terms would provide flexibility to meet economic educational needs as they arise, assure the maximum return on investment in human capital, provide an established means and media for dissemination of knowledge to all segments of the Georgia society and economy, and provide the back-up support necessary for technological innovation and its implementation through investment flows in economic facilities and endeavors.

Interaction of the economic-education communities seems the most direct, if not the only, means by which Georgia can overcome its potentially adverse economic mix and become attractive for space age economic development. Underlying the technological economic foundation of any viable society is an educational system that emphasizes quality in instruction, in research, and in service.

critique:

Economy of Georgia

By Harold L. Johnson, Professor of Economics, Emory University

THE PAPER on the economy of Georgia is a commendable effort, effective in its survey of the past and offering a "best guess" statement of the future by knowledgable observers. To turn this criticism to first things first, the analysis properly links the future development of Georgia to massive investment in educational resources for its black citizens. The writers are correct in stating that the "persistent difference between whites and blacks in education and economic opportunity and attainment" has significantly affected the state's economic development.

This conclusion should be underscored by additional information. It has been estimated, for example, by the nation's Council of Economic Advisors that if non-whites possessed the same education as their white fellow citizens and if their talents were fully put to use, the country's GNP would be 3.2 percent above present levels.[1] This would amount to an increase of approximately 30 billion dollars in finished goods and services for the nation's citizens at today's level of production. In Georgia, where the proportion of blacks is about 28 percent in comparison with the national average of 11 percent, the impact of full equality in education and economic opportunity would be even more relatively significant. Furthermore, it has been estimated by the National Advisory Commission on Civil Disorders that if Negro males worked in the same spectrum of jobs as do their fellow white citizens, an additional 4.8 billion dollars a year would be available to the nation's economy.[2]

The investment nature of equal educational opportunity is apparent in the calculation of the present value of such a stream of additional earnings. With a seven percent interest rate and a term of 25 years, as an illustration, the present value of 4.8 billion dollars annually would be 55.9 billion dollars. Again, in the case of Georgia where the black proportion of the labor force is larger than that of the nation, the payoffs to the state's economy in additional resources devoted to the education of the disadvantaged would be more significant. The investment nature of these expenditures should be emphasized, for as the writers of the paper note, advances in educational and employment opportunities of the state's black citizens are instrumental to the future economic development of Georgia.

It can be argued, in addition, that because of discrimination in education and employment, poor whites tend to be the least able whites. Poor Negroes, on the other hand, include along with many least able, many of average to superior ability. The implications for effective resource development of this likely characteristic of low income blacks is obvious. Dollars expended in education to help put the Negro poor to work can be expected to have higher payoffs in terms of output to the state's economy than similar flows earmarked for the white poverty-stricken.

More detailed information is available which offers additional insight into the prospective economic benefits of adult training and employment programs with low income workers. According to a Department of Health, Education and Welfare study of 12,700 Manpower Development and Training trainees, each dollar spent in training returned $2.24 per year in gross earnings. The trainees repaid in full the cost of training through federal income taxes in five years.[3] Another study of MDTA programs found a benefit-cost ratio for the average trainee between three and six and of at least 11 for the government through reduced outlays on such items as unemployment insurance and welfare payments.[4] An investigation of an On-the-Job Training project with 650 trainees discloses an average net federal benefit cost ratio of 3.28.[5] There are, consequently, at least partial and scattered data which indicate that the education, training, and hiring of low income workers, transforming them from tax burdens to tax payers, would be of marked dollars and cents benefit to the state.

Perhaps some brief comment should be made at this point about the need for additional workers. Some commentators, though clearly not the writers of the paper on the economy of Georgia, question the strategy of making all citizens ready for employment and contribution to the economic wellbeing of fellow citizens. Visions of 20 hour work weeks and of massive unemployment under the joint onslaught of automation and computer science make such job increases unlikely, in the judgment of some observers. A quick survey of the agenda of state and national needs, however, in the areas of housing, education, mental health, prisons, recreation, and the arts, not to mention the massive overhauling that confronts many rural and urban areas, indicates a shortage rather than a glut of workers. For an accelerated advance in the economic performance of Georgia, we sorely require the full employment of all of the state's adult citizens who desire to participate in meaningful work.

Turning now to another important matter, the writers present an essentially optimistic view of the future for the Georgia economy. Some problems are discussed, but the favorable "demand" side of the future is used as a basis for optimism. The potential for growth as development in the paper rests on the real desires of people to purchase the goods and services produced in the state. The "demand" capability to achieve the targets they set out is surely part of the picture. The likelihood of a severe depression between now and 1985 is small, for example. But, additional "supply" or environmental elements also should be introduced into the analysis.

As has already been noted, their discussion implies the necessity of massive thrusts of resources to make the black labor force a full and equal partner in both the production and consumption of a growing output. The state in order to achieve its potential will have to apply massive amounts of resources to the generation of human capital in the Negro community. This investment in resources is implied in their paper but does not directly enter into their analysis.

They do not raise any questions, however, about the likely environmental pollution problems which should accelerate in seriousness between now and 1985. Their optimism about the future is not tempered by a confrontation with the rising social costs that will accompany the increasing industrialization of the state expected by 1985.

With a growing demand by the state's citizenry for a cleaner environment and with a stiffening of federal regulations concerning pollution, it is most likely that a rollback from existing levels of atmospheric and water pollution will take place during the coming decades. Business firms and municipalities in the past admittedly have not taken into account the full repercussion on others of their economic activity. But today we can expect improvements in the present levels of pollution, and will require future increases in production to reduce the social costs of pollution.

Thus growing proportions of our resources will be directed in this manner —to meeting some "supply" or environmental aspects of the future. It is impossible to say whether Georgia will be more or less environment-minded than the rest of the nation. The safe conclusion thus is to expect that Georgia and the rest of the nation will move in an essential tandem to meet this growing problem. This means that some resources which might have been devoted to production—to the production of pollution, so to speak, will in the future be devoted to its elimination.

The social costs of urban agglomeration, a most likely element accompanying industrialization, also, are not introduced into their forecast of the future. As metropolitan areas continue to grow, the congestion of people will require the use of more resources simply to overcome the resistances of urban life. The whole spectrum of urban services can be expected to accelerate into a significant element in resource allocation. The forecast of Georgia's future thus must take into explicit account expanding expenditures for the diminution of environmental pollution and for the continuing urbanization of society. As an education implication of these developments, it seems clear that the social science curriculums at all levels, but particularly high school, should acquaint students with the contemporary and future issues of environmental pollution and urbanization.

The remainder of this critic's remarks now relate to relatively unimportant suggestions. The calculations presented on page 10 will not be completely clear to the lay reader, for the numbers of a 60 percent increase in cash income, an increase in price of 175 percent and of production of 155 percent between 1940-1967 do not clearly fall together. It would be better to state that farm cash income in 1967 was 700 percent, or seven times that of 1940. By 1967 the price index was 275, with 1940 as a base of 100. Thus, physical volume of production in 1967 can be estimated to have risen to 255 percent of the 1940 level. The interested reader thus will be able to see that $2.55 \cdot 2.75 = 7.00$ with total farm cash income. The idea of increases of 600 percent, 155 percent, 175 percent is not sufficiently clear with the wording of this paragraph, and more importantly the lay reader will not know how to handle the numbers in this form. Neither adding nor multiplying will give the stated result, while with the procedure outlined above, the situation will be more clear.

The preferred procedure, next, is for the use of bar charts rather than pie charts as with Chart 1. The reader will be able to make a more clear distinction between the distributions with bar charts. For a final minor suggestion, the "likely changes" in population, labor force, working hours, and productivity referred to perhaps should be briefly discussed, so that the reader can see how the writers explicitly weighed them to come to a 44.5 percent average annual real growth rate in GNP.

Footnotes

1. "Economic Costs of Racial Discrimination in Employment," Council of Economic Advisors, (The Price We Pay), p. 40.
2. *Report* of the National Advisory Commission on Civil Disorders, 1968, p. 125.
3. "Education and Training—Third Annual Report on Training Activities, Department of Health, Education and Welfare, 1965.
4. Borus, Michael E., "The Economic Effectiveness of Retraining the Unemployed," *Yale Economic Essays*, 1964.
5. Cost Effectiveness Analysis of On-the-Job and Institutional Training Courses," A Report of the Office on Manpower Policy, Evaluation and Research, Department of Labor by Planning Research Corporation, Washington, D. C., 1967.

Industrial Development Trends and Forecasts

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INDUSTRIAL development may be defined in many ways. For the purposes of this paper, industrial development is defined as those activities which relate to manufacturing in Georgia and the activities of organizations to attract new industries and develop new enterprises.

Industrial development is important to Georgia because it is a wealth-producing element in the economy. When manufacturing is associated with other wealth-producing activities (e.g., agriculture and mining) and with wealth-circulating enterprises (services, commerce and tourism), a balanced and diversified economy results.

Major factors which have a bearing on industrial development potentials in Georgia include market potentials, the labor force available, the transportation complex, and in certain areas, raw material availability. Many other secondary factors may have a bearing on any particular industrial plant location.

The manufacturing makeup of industry in Georgia has been strongly influenced by the early establishment of the textile industry. This segment, with the apparel, food, and wood products manufacturers, now employs about 60 percent of the manufacuring labor force in the state. Manufacturing wages in Georgia lag behind the U.S. averages appreciably for almost all industrial segments. High-technology industries are relatively few in Georgia, although the largest single employer, Lockheed-Georgia, falls in this category.

In recent years a great many organizations have come into being in Georgia with a total or partial mission of encouraging industrial development. Various state agencies, as well as utilities, banks, railroads, chambers of commerce, and multi-county regional and federal agencies, are joined in this effort. Their activities include promotion, research, development, and technical assistance to existing industry.

If present trends continue, the industrial mix in Georgia will not change greatly by 1985. The domination of textiles, apparel, and food products industries will continue. The transportation and paper industries will expand as well. The lumber and wood products and the gum naval stores industries will decline in employment. Per capita income in Georgia will continue to trail the national average by $600 to $700.

Basic interrelated problems impeding future manufacturing development relate to the present per capita picture, the need to attract high-technology industries, and the need to develop a better educated and trained labor force. From the viewpoint of organization, there is considerable overlap and duplication of effort on the part of development agencies. The industrial development financing picture is only average.

To overcome these problems, the following observations are made. (1) A concentrated effort to attract high-technology industry is essential. (2) Existing and "home-grown" industry must receive support. (3) The cultural and recreational environment must be improved. (4) Georgia's competitive position must be enhanced.

In education, the following recommendations are made. (1) Introduce limited vocational training in all high schools. (2) Expand basic education programs for uneducated adults. (3) Survey present and future industrial manpower needs. (4) Expand cooperative programs at secondary school levels. (5) Provide pre-employment training for the unemployed. (6) Establish an experimental education center.

GEORGIA is one of the more heavily industrialized states in the Southeast. It has potential for faster than average growth in the years ahead. This potential probably will not be realized, however, unless the way Georgia is going about industrial development is modified.

What Is Industrial Development?

Since words or terms tend to mean different things to different people, it is sometimes desirable to define them in the context of their meaning in a particular discussion. Industrial development is one such term which has different meanings to different people. To some, industrial development means the growth of manufacturing. To others, industrial development covers the entire span of business and industrial activity, including such things as commercial activities, banking, finance, agribusiness, mineral production, recreation and tourism, and other income-producing activities.

Arbitrarily, but for the purposes of this paper, industrial development will be defined as those activities which relate to manufacturing in Georgia, recognizing that this is a narrower interpretation than is generally used. Industrial development will also be considered to cover the efforts of individuals and organizations to attract new industries to the area and to develop new enterprises of a manufacturing nature.

The Rationale for Industrial Development

Most of man's activities in the world can be categorized as wealth-producing or as wealth-circulating. Wealth-producing activities are those which take a raw material, process or finish it in some way, and produce a product which has greater value. Agriculture is such a process, as is mineral production. Manufacturing, too, is a primary wealth producer.

The growing and processing of cotton is an excellent example of this process. Cotton increases in value during the growing and harvesting period. When sold by the farmer as a bale, it may be worth $150, and when manufactured into 500 cotton dress shirts, it may have a mill value of $1,500. Both the agricultural and manufacturing processes have added value to the original raw material. The subsequent steps of wholesaling and retailing the dress shirts affect the final price of the product, but they do not alter or change the product in any way and, hence, do not create wealth.

Many activities such as service industries, trade, commerce, and tourism are sources of income, but they are not wealth producers. They tend to circulate money already in the economic system, and in doing so, they redistribute wealth.

Generally, if an economy is to be sound, both types of activities are needed and wealth-producing activities must be present. However, there are unusual situations where the economy is dependent upon wealth-circulating activities without a corresponding development of wealth-producing activities. For example, an area established by fiat (Brasilia in Brazil) may exist without the traditional wealth-producing activities—agriculture, mining, or manufacturing. If government support were to be withdrawn, such a community might wither away from lack of an economic base. Another community, because of special historical or locational circumstances, may rely almost entirely on tourism as a source of income for the inhabitants. In such an unbalanced situation, even a short-term failure of the tourist trade could wreak havoc with the economy.

Because it is a wealth producer, manufacturing is much sought after in the Southeast and in Georgia. It can contribute to the economy of an area in terms of new jobs, new income, more retail sales, more bank deposits, additional residents, new homes, and all of the other benefits characteristically associated with industrial expansion. Manufacturing jobs, in turn, support other service, trade, and governmental jobs in the area. The multiplying effect is an important by-product of industrial activity.

What Factors Are Important in Industrial Development?

A great many factors have a bearing on industrial development in Georgia. Those which are generally considered the most important are markets, labor, transportation, and raw materials.

MARKETS. Possibly the single most important factor in the attraction of new industry or the expansion of existing industry is the market potential. For some industries, the demands of people, the ultimate consumers, constitute the yardstick; others are dependent upon the volume of the market for their products among the other industries in their area. If one considers markets in terms of people, then Georgia is well located to serve the growing consumer population in the Southeast, and Atlanta certainly is the focal point of the regional market.

Obviously, the market area of interest to different manufacturers varies greatly with the product and its value. A heavy, low-value product, such as cement, cannot be transported great distances economically because of freight costs. Hence its market area is restricted in geographical size. Products such as electronic components, on the other hand, can be transported great distances at little cost relative to their intrinsic value, which is high. Industries which are not restricted to location in any specific areas because their products are high in value and low in weight are generally called "footloose industries."

LABOR. An increasingly important factor in industrial development is the labor force in the area from which manufacturers have to draw. A characteristic of the economy of the past decade has been a constant demand for additional employees in manufacturing—and in most other aspects of the Georgia economy as well.

As a result, severe shortages have developed in various areas of the state. The unemployment rate has fallen to less than two percent on occasion in the Atlanta area. When one considers that the two percent includes those who are virtually unemployable and persons who are "between jobs," this level constitutes virtually full employment. The result in the Atlanta area has been a continuing shortage of workers and a drying up of the traditional labor force of domestics and yard men, those activities which call for little in the way of education and training. Most of those who formerly served in these capacities have now been retrained for other jobs, have found better-paying positions, or have moved out of the area entirely.

This shortage is not confined to the Atlanta area alone. Other areas of Georgia have experienced shortages of unskilled, semiskilled, and skilled workers.

One interesting aspect of this situation is what has occurred to the traditional pattern of out-migration in Georgia. Since the turn of the century and until very recently, although Georgia's population grew numerically, a net out-migration existed. That is, when the natural increase (births minus deaths) was considered, for 60 years the state experienced a net loss of people to other areas, even though its population increased. In the period from 1960 to 1965, however, this long-standing pattern changed—a net in-migration of 81,000 persons was registered. This came about because for the first time in this century jobs were available not only for Georgia's increasing population, but also enough jobs were available to pull in new residents from elsewhere.

If this trend continues, it presages significant changes for the state in population above and beyond the forecasts which have been made based on the traditional out-migration trend.

The saving grace in this labor-shortage period is that, with few exceptions, the demand for workers has been primarily for the unskilled and semiskilled, rather than the highly skilled. The existing populace, plus the in-migration, has been able to produce these types of workers in sufficient quantity to respond to the needs of industry as well as other segments of the economy.

In contrast to the overall shortage of labor in the state are the pockets of high unemployment to be found, usually in the urban ghetto areas. Here the problem lies mostly in the fact that the ghetto inhabitants are uneducated and untrained for the available jobs. In a survey of the Model Neighborhood area in Atlanta, it was found that 500 manufacturing jobs were unfilled while unemployment in the area was over 6 percent. There was simply no match between the labor skills available and the job requirements.

Unionization is continuing to gain ground in the state as industrialization increases. At present many small Georgia communities refuse to seek industries which are unionized, although others, particularly the larger communities, are less restrictive in this regard.

Wage rates in Georgia are considerably below the U.S. average in all but a few manufacturing categories. In 1967, the per capita income for the state was $2,513 compared to a U.S. average of $3,137. This situation has not changed appreciably in the past decades. In 1947, the gap between the U.S. and Georgia per capita income figures was $646 and in 1967 it was $624.

It should be pointed out that the wage gap between Georgia and the average and above-average states of the union provides some incentive for industries located in those states to consider a Georgia location. They can expect, in general, lower wage costs in Georgia which can be translated into potential for greater profits.

TRANSPORTATION. A third important element in industrial development is the transportation network which exists in Georgia. In this category is included the highway system, the railroad network, the commercial and private air service, and the waterborne transportation system. These are the means by which raw materials and products are brought into and shipped out of the state. They also provide the transportation infra-structure for movements of goods from point to point inside the state.

Obviously, the condition and availability of a distribution network is important to any manufacturer concerned with transporting his products to the market. Larger manufacturing plants normally require access to both rail and motor freight services. Some depend entirely on motor truck haulage. This is especially true where the products are low in weight and high in value. Air transportation is important to provide both executive travel convenience and air freight where this mode of transport is desirable.

Atlanta is the transportation hub of Georgia and of the Southeast. However, it lacks water transportation. Although navigation may develop on the Chattahoochee River, this possibility is many years away. On the other hand, Savannah and Brunswick are important because they are seaports and centers of waterborne commerce.

To a lesser extent, bus transportation of small products is important, especially in certain types of replacement parts for machinery and similar items. On a local basis, city bus lines may be important to manufacturers from the viewpoint of providing public transportation for their workers.

RAW MATERIALS. Various types of raw materials, such as timber, minerals, and various agricultural products and by-products, may be major factors in the location of industry. It is vital to some industries that plants be near sources of raw materials—such industries are good for the nearby communities since employment is provided for both the production of the raw materials and the processing of the materials in the plants themselves.

It should be recognized that Georgia is not one of the "have" states when it comes to minerals. A great variety of minerals is present in the state, and some of these are mined, such as talc, kaolin, and phosphates. But compared to some of the leading states, Georgia's total mineral production is not large. Notwithstanding, where local commercial deposits are available, manufacturing opportunities are present.

OTHER FACTORS. There are, of course, many other factors to be considered in industrial development. These are generally deemed secondary in importance to the four mentioned above. However, when a specific plant location is being evaluated and several communities may be under consideration, these secondary factors assume greater weight and may even be critical in the final location decision.

These factors include, among others, the following—

Availability of industrial sites
Availability of existing industrial buildings
Infrastructure—power, fuels, gas, water, sewerage, streets
Communications
Fire and police protection
Medical, hospital, and public health facilities
Educational and training facilities
Hotels, motels, and restaurants

Recreational facilities
Government and taxes
Housing
Trade
Cultural and religious facilities
Business climate
Community appearance

These factors will not be discussed in detail here, but they are of sufficient importance that information on them should be readily available for response to inquiries from interested industrialists.

A Quick Glance Backward

For the first 160 years in the life of our country, manufacturing capacity was largely concentrated in the so-called "Connecticut-Chicago axis," a broad belt running from the New England and mid-Atlantic states through Pennsylvania and Ohio to Illinois. This is where the early centers of population were, the sources of financing, and many of the outlets to foreign markets.

The Southeast was largely agrarian in nature, and many of the products grown in Georgia found their way to the North and the East to be processed and finished. The Civil War shattered most of the manufacturing capability which had been developed in the Southeast, and the Reconstruction period was not conducive to revitalizing southern manufacturing. At the end of this period, however, industrial enterprise began to reappear.

By the late 19th century, the textile industry was strongly re-established in many parts of Georgia. Railroads had expanded and covered the Southeast in a comprehensive way, making transportation, distribution, and communication a great deal easier. The iron and steel industry was well advanced, notably in Alabama. Food processing was established, and the timber resources were being utilized in various ways. The present-day economic base was being laid.

By the early decades of the 20th century, a pronounced tendency to move to the South from the North had occurred in certain industrial segments, particularly in the textile industries of New England, which were encountering difficulties with wage increases, profit reductions, and foreign competition. Industrial growth all over the country suffered during the depression of the 1930's. The industrial demands of World War II further stimulated manufacturing growth of the Southeast, and the relatively broad base of industry in Georgia was further extended to include the production of wartime aircraft and other military products.

The post-World War II period has been one of unprecedented industrial expansion in Georgia in the traditional major manufacturing fields, such as textiles, apparel, wood products, and food processing. In addition, new industries have developed, such as transportation equipment, metalworking, and the carpet industry; these have had a measurable impact on the economy and the manufacturing base.

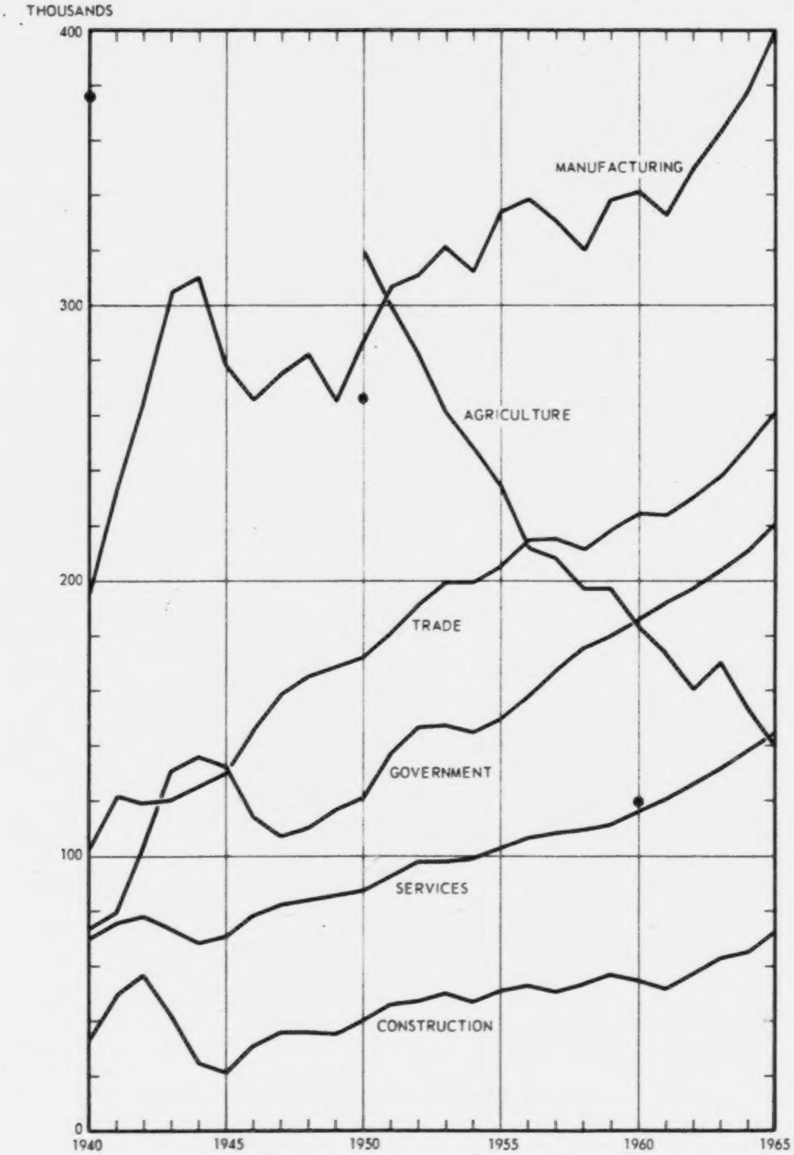
Industrial Development in Georgia in the 1960's

The present makeup of the manufacturing industry in Georgia is well-known and documented. It is the largest single employment category in the state, as is shown in Chart 1. The trend of manufacturing employment since 1965, the last year shown on the chart, has consistently been upward.

In most other indicators, as well as numbers of workers, manufacturing is the largest industrial segment in Georgia. It is likely to continue so for some time, despite a noticeable slowing down in manufacturing employment growth in the United States and a tendency for this part of the work force to become smaller percentagewise as other segments, notably service industries and government, increase.

CHART 1

EMPLOYMENT TRENDS IN GEORGIA BY SELECTED MAJOR INDUSTRIES, 1940–1965



Sources: U. S. Department of Labor, Bureau of Labor Statistics
U. S. Department of Agriculture
Agricultural data designated by (●) from U. S. Census of Population (see text).

When one looks at the industries which make up the manufacturing segment of Georgia's economy, some insight can be gained into the problems and opportunities which confront the state. Textiles, apparel, food industries, and wood products together employ almost 60 percent of the manufacturing workers of the state. In 1965, the textile industry accounted for 25.7 percent of the total manufacturing employment, the apparel industry for 15.8 percent, the food industry for 11.6 percent, and wood products for 6.7 percent.

These four industries are the traditional mainstays of manufacturing in Georgia. Workers in three of these industries are increasing numerically. The exception is the lumber and wood industry (6.7 percent of total manufacturing employment), where the long-term trend seems to be downward. These industries have been extremely important in the development of Georgia to date and will continue to be important in the foreseeable future.

Another important activity is the manufacture of transportation equipment, primarily the production of aircraft and the assembly of automobiles. Paper manufacturing is next in employment size, followed by stone, clay, and glass, fabricated metals, chemicals, printing and publishing, machinery, and furniture. In 1965 these industries represented 33 percent of the state's employment.

In summary, in 1965, 75 percent of the manufacturing employment in Georgia was concentrated in just six industries: textiles, apparel, food, transportation equipment, lumber and wood, and paper.

Manufacturing Wages

Chart 2 shows the average wages in the manufacturing industries of Georgia. Four of the first six manufacturing segments in Georgia had average weekly production workers wages which were less than the Georgia average for all manufacturing in 1965. These four — textiles, apparel, food, and lumber and wood—accounted for 59.8 percent of the total manufacturing employment in the state. The other two elements — transportation equipment and paper—had weekly wages higher than both the Georgia and the U.S. average, but they represented less than 16 percent of the total manufacturing employment.

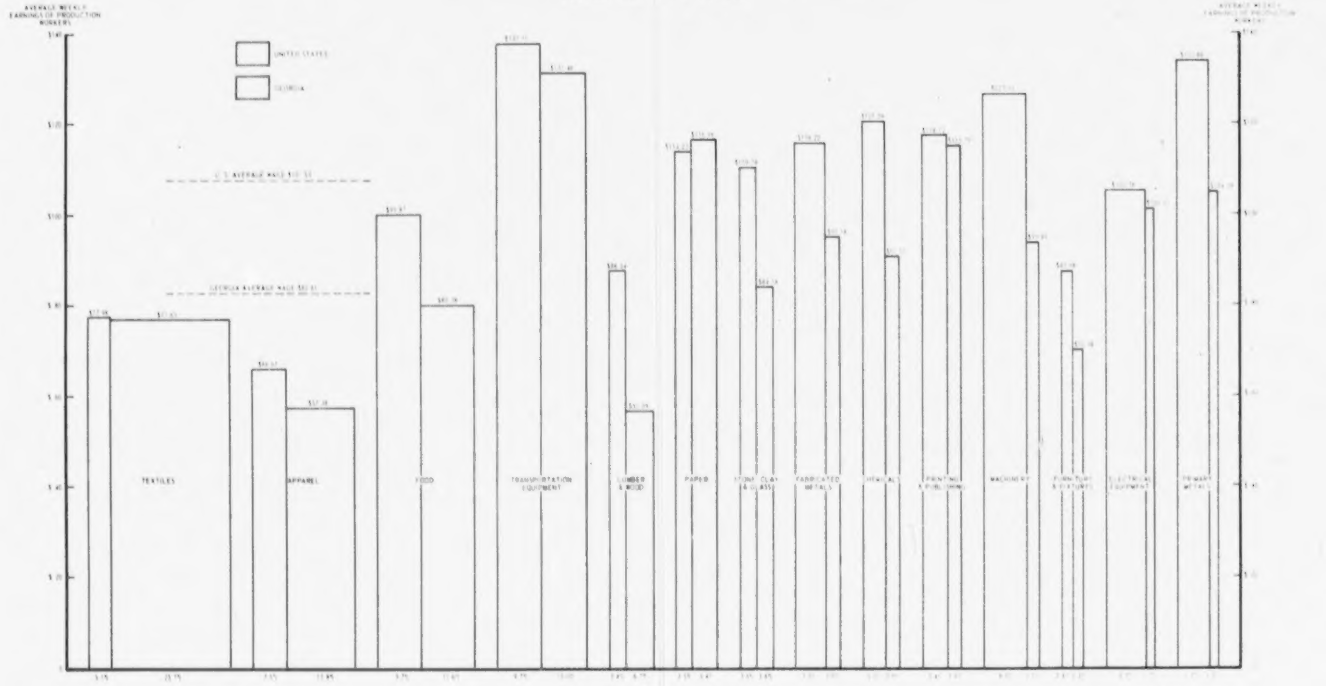
The high proportion of persons in Georgia working in low-wage industries is very clear and significant to the overall picture. The only industry where Georgia wages were higher than the U.S. average for the industry was in the production of paper. All others fall below the average for U.S. industries. In 1965 this combination of factors resulted in an average weekly wage for manufacturing employees about $25 less than that for the U.S. as a whole. When this is translated into an annual wage differential ($1,300), it becomes obvious why the Georgia per capita income consistently lags behind the U.S. average by an appreciable amount.

Level of Sophistication of Georgia Industry

In general, relatively few Georgia concerns may be said to fall in the sophisticated, high-technology category. Georgia's largest single company, Lockheed-Georgia, is in this group. The paper mills of Georgia must be placed in this category, and they are among the best-paying manufacturers in the state. In addition, there are a number of smaller companies specializing in sophisticated products or in research and development.

On the other hand, the older, more traditional industries in the state such as the textile industry have been making great strides in recent years in modernization and automation. The tufted carpet industry is among the homegrown industries which have developed their own equipment and automated machinery, and this has helped it to secure a large part of the U.S. carpet

CHART 2
MANUFACTURING EMPLOYMENT AND WAGES FOR SELECTED INDUSTRIES,
GEORGIA AND THE U. S., 1965



Source: U. S. Department of Labor, Bureau of Labor Statistics.

market (63 percent) in just two decades. This willingness to change longstanding ways of operation manifested by Georgia industry is significant.

In fact, recent research into the mobile home industry in Georgia and the wood furniture industry in North Carolina indicates that there is little difference in receptivity to new information and technology in these industries. The premise that an emerging industry like the mobile homes manufacturers would be more receptive to innovation than an established industry like wood furniture has been proven false, at least in this particular instance.

Industrial Development Climate

What is the industrial development climate in Georgia? How is the effort organized and what is the support for the effort? What types of activities are pursued?

Industrial development has long been a recognized activity in the state, but as an organized activity of a great many organizations, it is a comparatively recent one. The years after World War II saw only a few organizations in Georgia mounting a strong effort to attract industry to the state and virtually none interested in developing the home-grown type of industry which is often so beneficial to the economy. By the mid-1950's a few organizations, mainly railroads, utilities, and chambers of commerce, were pursuing vigorous promotional programs. At that time the state effort was relatively weak, and while a number of local groups were organized, they were uneven in their performance, relied mainly on volunteer labor, and few of them had systematically organized programs. Only lip service was paid to the ideas of helping existing industry in the state expand and diversify.

In the period between the mid-1950's and the present, a rather remarkable transformation in the industrial development field has occurred in Georgia. It has been marked by a proliferation of agencies dedicated to this activity, the development of strong and aggressive programs, strong financial support at the state and local levels, and a general upgrading of the levels of sophistication of the industrial development effort.

The state government of Georgia has assumed a much more active role through the activities of the Department of Industry and Trade and elements of the University System as well as the demonstration of interest on the part of other state agencies, notably the education and labor departments. The Georgia Department of Education has been most helpful in the industrial development efforts, while the Labor Department has provided much information on the manpower resources of the state.

In addition to state government activity, a number of private organizations are pursuing industrial development over all or much of the state. This includes the utility companies, notably the Georgia Power Company and the Atlanta Gas Light Company. The Citizens and Southern National Bank and the First National Bank are very active in industrial development, and a number of other banks are interested in the field. Southern Railway System and the Seaboard Coast Line Railroad Company are extremely active over large areas of the state and other railroads have individuals responsible for this activity as well. The Georgia State Chamber of Commerce has an extensive program of industrial development.

At the multi-county level, the state is almost completely covered by 18 multi-county area planning and development agencies which include industrial development research activities within their scope of operations. At the community level, there are approximately 50 staffed chambers of commerce which are interested in industrial development. Many communities have established industrial development corporations devoted to attracting industry and, in some cases, helping existing industry expand. The Office of Economic Opportunity has ongoing programs which involve industrial development, and a number of other federal programs relate in some way to this activity. County and municipal governments are interested and in a few cases have staffed industrial development positions. The Coastal Plains Regional Commission and the Appalachian Regional Commission, both of which operate in Georgia, also have industrial development objectives.

The result is that a remarkable network of organization with industrial development activity as part or all of their missions has been developed in the state of Georgia. It is not remarkable, however, that sometimes an overlap of functions and activities occurs as a result of all of this activity.

Financial Support

The degree of financial support given to these activities in the state is probably in the order of five to seven million dollars per year from both private and public sources. The organizations involved have much greater expenditures in total, but not all of these are directly attributable to industrial development activities. Also, this figure is merely the amount for staff and program support and does not include the large volume of financial support provided through such means as loans and industrial bonds.

The types of activities which these agencies pursue are several. For the sake of this discussion, these activities will be classified as promotional, research, developmental, and technical assistance.

Promotional Activities

Certain organizations focus primarily on dealing with representatives of industries which may have an interest in locating a manufacturing facility in the state. These organizations may also do research, industrial development advertising, and provide other services in the area of industrial development. They are distinguished from other organizations also performing these activities mainly by their emphasis on the promotional selling of locations in Georgia.

Organizations of this type include the Georgia Department of Industry and Trade, the Georgia Chamber of Commerce, various banks, railroads and utilities, and local chambers of commerce and industrial development corporations of various sorts.

Research Activities

Certain organizations are more heavily oriented to the research end of industrial development. Activities here include the identification of manufacturing opportunities, basic economic studies, resource studies, identification of community strengths and weaknesses, identification of industrial sites, and other allied matters which relate more to the environment in which industrial development is operating. The findings of these organizations are obviously of great value to the organizations which concentrate on promotional activities.

Organizations of this type include the Industrial Development Division of Georgia Tech, the Coastal Plains Regional Commission, and the various area planning and development commissions. Generally speaking, these agencies are not involved in the promotional selling of Georgia to industry.

Management and Technical Assistance

A much smaller group of organizations, drawn almost entirely from the higher education institutions of the state, provides management and technical assistance to existing industry. These services might range from new product evaluation and testing and market studies to down-to-earth assistance on operating, expansion, and diversification problems.

Organizations of this sort are found in the Engineering Experiment Station at Georgia Tech, the Agricultural Extension Service of the University of Georgia (mainly related to agribusiness), and some of the other institutions around the state.

Georgia Industrial Development in 1985

If industrial development proceeds in the future along the same development lines as it has in the past, the industrial mix, dominated by the textile, apparel, and food products industries, is not liable to change much in relation to the total of industrial activity. Under such conditions, the pronounced trend of heavy industralization in the northern half of Georgia will continue. Manufacturing in the southern half of the sate can be expected to grow moderately as it has in the past decade.

What is the likelihood that recent industry trends will continue in the future? The increasing pace of technological change indicates that certain changes will occur, new industries will develop, new products will be manufactured and marketed. However, because of the magnitude of existing industry in Georgia and the predominance of six industrial segments, the changes in technology and product mix would have to be of substantial nature to greatly change the existing pattern. Some external force would be needed to alter the pattern. Some new industries would have to come into being and expand rapidly in the years ahead in order to make any appreciable impact on the existing industrial structure. How many new industries are there which can grow to billion-dollar size in the space of a few years, as the tufted carpet industry has done? Very few, if any, in all probability.

One can only conclude that, unless some significant changes are made in the manner in which Georgia is going about industrialization, the industrial future of the state looks only moderately rosy and Georgia will lose ground relative to a number of other states which it now surpasses.

If the present trends persist, the following situation can be expected to exist in 1985, insofar as the economy is concerned.

Per Capita Income

If current trends continue, the per capita income of the Georgia resident will increase along the same trend line it has been following since 1930. This would indicate that the per capita income in 1985 will be on the order of $3,250 compared to about $2,500 in 1967. However, recent projections by the staff of the Joint Economic Committee indicate that a greater than usual increase in per capita income can be expected in the years ahead for the nation. Since Georgia lags the U.S. average consistently, it would be expected that the above figures would be conservative and Georgia's per capita income is more likely to be of the magnitude of $4,500 by 1985. This would still trail the U.S. average by $600 to $700, about the same amount as it does at present. Georgia will still be, in effect, a poor state.

Industry Composition And Employment

The industrial scene will be dominated by the textile, apparel, and food industries because these industries will still find in the state a "wage haven," making operation in Georgia more economical than in many other states.

The future of the transportation equipment segment of Georgia industry, fourth in size in 1965, is less clear. It is presumed that the automobile production in the state will increase in proportion to the population or slightly faster, depending on the state of the economy in future years. The aircraft industry, which currently is tied largely to defense contracts, will probably be operating at the same level of production; although many factors can affect this large component of the transportation equipment industry, it is probable that the level may not exceed what it is today. Employment in the transportation equipment industry as a whole may total 70,000 compared with 45,000 at present. This currently is the highest paying industry in Georgia, and it is likely to remain so.

The decline in employment for the lumber and wood products industry, which has been in progress for decades, is likely to continue but perhaps at a lesser rate. This industry, which only 18 years ago employed 50,000 people, now employs one-half that number. By 1985, it may well employ only 15,000 people. The activity level may remain high, but automation and changing processes will greatly reduce labor requirements. As a result, this industry will slip from its position of fifth in employment in the state.

Unless research into new uses is conducted successfully, such industries as the gum naval stores industry, which earlier employed 30,000 persons and now employs less than 10,000, will disappear altogether by 1985. They will be victims of new and competitive products, failure to seek new markets, and inability to compete in an increasingly difficult labor situation.

The paper industry will continue to automate and expand its labor needs as well. A large variety of new paper products can be expected, and employment in this industry may reach 40,000 by 1985. This increase is significant because the paper industry is next to the highest paying in Georgia, with weekly wages well above the U.S. average for the industry and a great deal higher than the Georgia average weekly manufacturing wage.

Fabricated metals, primary metals, chemicals, machinery, and electrical equipment are industries which are present in Georgia but which make up a smaller proportion of the state's manufacturing employment than is true nationwide for each of the industries. All of these industries pay higher weekly wages to employees than the average for all manufacturers in the state. From this viewpoint, they are extremely desirable.

These industries offer a number of opportunities which, if taken, can lead to a substantial improvement in the industrial picture in the state. For example, almost half the steel used in the seven southeastern states is produced outside the region, either in other parts of the nation or in foreign countries. The need for more producers of steel in the area is apparent. The best solution appears to be the so-called mini-steel plants, which utilize scrap metal in electric furnaces, thus freeing themselves of the old requirements for ore or pig iron and coal. In the fabricated metal fields, at least 28 products have been identified as having sufficient market in the Southeast to justify thte establishment of plants to manufacture these products.

Undeveloped Resources

Georgia offers a number of relatively undeveloped resources as well as some industry opportunities. To the extent that Georgians take advantage of and exploit these advantages, these actions will affect the industrial picture by 1985.

In the area of mineral resources, the phosphates which exist in many locations in south Georgia may have commercial potentials. The possibility of utilizing kaolins for the production of aluminum is very real, and this process depends only on the economics of the competitive situation. The brown ores of south Georgia (and Alabama) may serve as the basis of an iron and steel industry.

The greatest potential for mineral production lies in the ocean itself. The increasing marine research efforts now evident in Georgia with the installations at Skidaway and Sapelo Islands and the activity of the Ocean Science Center of the Atlantic offer a real possibility of a technological and industrial breakthrough in this field. The other traditional areas of marine resources, which treat the ocean as a source of food, fresh water, or as a transportation element, and the ecology of the coast may well support sizeable activities in the foreseeable future. Allocation of national effort to develop the potentials of the ocean can be expected to grow.

On the other hand, it is not now likely that Georgia will play a large role in such sophisticated fields as atomic energy or the space ventures.

The labor force of Georgia is one of the main underdeveloped resources of the state. Here is a body of people with, on the average, less schooling than is true in the U. S. and with relatively little industrial training. As a result, the labor force is largely unskilled in nature. In general, it appears to be conscientious, willing to learn, and willing to work hard. The continued industrialization of Georgia depends in a large measure on what the state of Georgia does with its labor force's education and training.

Basic Problems Confronting Industrial Development In Georgia

There are a number of symptoms of problems and problems themselves which should be recognized when one considers the industrial development of the state of Georgia. While many of these appear to be independent, for the most part they are interrelated.

Probably the most evident symptom of the industrial development problem is the per capita income picture. It relates to the traditional types of industries which have developed in Georgia and which are, for the most part, expanding in this environment. It relates to the overall educational picture as well, for there is little hope of attracting a significant segment of highly sophisticated industry to Georgia unless the educational level of the populace changes and improves greatly. It is necessary to look at these symptoms and problems more closely to fully understand their interrelationships.

Per Capita Income

The projections for per capita income in 1985 have been previously discussed. These are based on the assumption that certain rates of U. S. development will occur and that Georgia's position relative to the U. S. development will not substantially change. That is to say, the magnitude of increase in Georgia will closely parallel the magnitude of change in the national figures by 1985.

Such a trend, with the U. S. figures continually leading the Georgia figures by $600 to $700 per person, is based on the continuation of the type of development Georgia has experienced in the past on into the foreseeable future.

Is that good enough? Should Georgia be content to be a "have not" state, relatively speaking? Most Georgians will say a resounding "No" to these questions.

Attraction of High-technology Industries

The most easily identifiable solution to this dilemma is to organize, plan, and implement a program aimed at the attraction of high-technology industries, those which are also high-paying industries, so that the maximum impact will be produced on the per capita income picture. A massive effort will be required to do this and there are many obstacles. It would require a large number of successes in attracting such industries or developing home-grown, perhaps spin-off, industries to have any real effect.

There are examples of such developments throughout the country. The complex at Boston, Massachusetts, is based on the educational institutions and the research and development capabilities in the area. Palo Alto, California, also has a successful development of high-technology industries.

One of the interesting phenomena attendant to such developments is that a "critical mass" is reached after a certain stage of growth. When a suffiicient number of high-technology industries congregate, employing large numbers of people in the production of technological items, there comes a point at which this grouping starts to produce other organizations, such as spin-offs, new product enterprises, etc. At this point the scientific complex becomes regenerative and self-supporting.

The need for attracting high-technology industries has long been apparent. No less than three major reports of the Industrial Development Division of Georgia Tech have been devoted to pointing out the need for this effort. "Blueprint for Progress" (1959), "Industrial Development in Georgia Since 1947" (1961), and "Industrial Development in Georgia, 1958-1965" (1967) all point to the need of deliberately seeking to build up a structure of highly sophisticated and technically oriented industries in the state.

More recently, Battelle Memorial Institute did a study of that portion of south Georgia which falls within the borders of the three-state Coastal Plains Regional Commission. This report was made as a result of the Commission's recognition that high-wage and high-growth industry is needed if the income gap which exists between the commission area and most parts of the country is to be closed.

All of these reports stress the type of industry which needs to be sought. Electrical and nonelectrical machinery and primary and fabricated metals are examples of industries which are poorly represented in the Georgia economy; they are also the types of high-wage industries which should be pursued. Chemicals and transportation equipment are two other industries which also are strong elements in many of the states which have high per capita income. The potential for much greater development of these industries in Georgia exists if the state is willing to make the commitment to attract them and to provide an industrial development climate which is conducive to their continued growth.

It is one thing to say, "Let's try to attract high-technology industries to Georgia." It is quite another thing to do it. The demands of such industries from the environment in which they locate are quite different from the needs of the industries now existing in Georgia. One of the critical requirements of such industries is the right kind of labor. They require larger proportions of highly educated professional people, of highly trained skilled personnel, and of semiskilled persons. The need for the unskilled is very limited.

From the viewpoint of Georgia labor, such an addition to the industrial scene would be largely complementary to the existing industry, which hires a larger proportion of the unskilled and usually teaches them whatever skills are required. High technology, to a greater extent, would seek the better educated and skilled. Unfortunately this class of worker is already in short supply in the state and no great efforts are being made to produce such a labor force. For example, the largest scientific and engineering institution in the state, Georgia Tech, has an enrollment which is increasing very slowly and many of its graduates are from out of state and leave Georgia on graduation. The demands of present industry for properly trained individuals are so great that it is not unheard of for one company to hire all the graduates of certain training courses in the system of state vocational-technical training schools.

It may be argued that high-technology industry will never come to Georgia in any magnitude until the properly trained cadres of labor which it seeks are present in the Georgia economy. It is unreasonable to expect a highly sophisticated industry to locate a plant in the area and bring all of its labor with it. This is too expensive an operation, and there are many areas of the country where such a mass movement of workers would not be necessary, by virtue of existing available and properly trained workers in those areas.

On the other side of the argument, can the state afford to mount a massive educational and training effort, far greater than that being made at present, on the assumption that certain sought after and highly desirable industries will indeed choose Georgia as a location for facilities? The problem is not unlike the chicken or egg question. Which comes first, the high-technology industry or the skilled labor it needs . . . ?

The answer is probably neither. There is, in the Atlanta area, a group of companies which fall in the high-technology category. For the most part they have been attracted to that part of the state by the urban complex which has developed and the particular manpower and technological resources of that area. Some natural growth of this type of industry can be anticipated in Atlanta even if no concerted effort is made to fully develop this potential. If such a campaign is mounted, the potential for a mushrooming scientific complex of industries is great, although it will require an effort of considerable magnitude to bring it to fruition.

Elsewhere in the state, the potential for the development of high-technology industries is not quite so bright. The paper industry, which falls in this category, tends to locate where fiber resources and sufficient water exist, and some expansion of this industry may be expected. The chemical industry is likely to develop along the rivers of the state and at the seaports of Savannah and Brunswick. Petrochemicals may have a future in Georgia, if the oil import restrictions are lifted and certain free trade zones are permitted by the federal government. But these are complex locational situations tied to specific area resources or actions of governmental agencies, which at best are unpredictable and all too often subject to change. Overall, the prospects of attracting highly sophisticated manufacturing enterprises are not good, especially in the absence of any state commitment to this end.

Even if such a commitment were to be made and the effort implemented successfully the secondary consequences of attracting high-paying industry should be recgonized. These are mainly economic in nature.

If a large segment of high-wage manufacturing were introduced into the state's economy, inevitably it would affect the existing manufacturing structure. Competition for the better-qualified personnel would be accentuated, putting considerable pressure on the lower-wage segment of industry to become involved in an even greater salary and wage spiral than now exists. In-migration of people into the state would be accelerated, putting additional strains on services and governmental units, on housing and transportation facilities, and possibly heightening the social and racial pressures which are at work in the environment today. The general upgrading of income levels would increase the demands for consumer goods and services. More sophisticated industrial services would have to be developed to supply the needs of high-technology industries, (e.g., instrument repair and maintenance, specialized metal treating operations, tool and die establishments in greater numbers).

The alternative to mounting such a concerted effort to develop high-technology industries is to accept the premise that Georgia is destined to have a second-rate economy in comparison with national standards, that consequently educational levels will remain low, and that future development of the state will merely match or fall behind that of the nation.

Other Problems Relating to Industrial Development

In addition to this basic problem of per capita income and the need to attract high-technology industries, there are some organizational and environmental problems in Georgia which are deterrents to accelerated growth of the manufacturing segment. The industrial development agencies of Georgia exhibit some overlapping of effort, and there is a duplication of some research activities. There is no concerted attempt to concentrate on the quality types of industry which are needed for Georgia. This is natural enough in view of the fact that most of these agencies act in response to inquiries from industry and most of those industries which are considering a location in Georgia are not from the high-technology segment of manufacturing.

OVERLAP DUE TO MULTIPLICITY OF AGENCIES. Agencies tend to rely upon the research results of others, expanding and amplifying on them in published form. Little new information is contributed by such efforts, but these activities require a considerable expenditure of manpower and money. With research needed desperately in so many areas where little work has been done, the time and labor required by these duplicative research efforts would be much better applied to innovative research in new fields where a sizeable contribution can be made.

FINANCING. The financial picture in Georgia is neither good nor bad, as far as industrial development financing is concerned. The state has at its disposal an average array of financial tools. However, there is nothing daring or innovative which one could expect in a state which realizes that it has a long way to go to catch up with the U. S. indices for industrial development.

The conventional sources of financing exist in every state—banks, insurance companies, private investors, etc. Under recent Congressional legislation, all of the states face the same restrictions in revenue bond financing—a $1-million tax-exempt maximum or, in certain instances, a $5-million limit over a six-year period. Many states have statewide legislation allowing any community or county to issue such bonds, but not until November 1968 was the Georgia Constitution amended to permit the General Assembly to authorize creation of industrial revenue bond authorities by any county or city. However, 134 such authorities had been created previously by individual local amendments in 121 of the state's 159 counties. Enabling legislation would be required to establish authorities in the remaining 38 counties.

Georgia also is not among the 40 states with statewide agencies assisting in industrial plant financing. A least 16 states have established and funded industrial finance authorities. Some of them can make direct loans for industrial development purposes, generally at some percentage of the total project cost and at low interest rates. Other state authorities guarantee mortgages as a primary activity. Some states permit loans to nonprofit local development corporations rather than to the industry directly. As long as Georgia does not have an active statewide development authority, its industrial development tool kit is not complete.

Another variation is the statewide business development corporation, which performs the same function as the authority mentioned above. The major difference is in the funding, which comes from financial institutions, such as banks, insurance companies, savings and loan associations, and related private organizations, rather than from state sources. Georgia does not at present utilize this type of financing vehicle, although at least 38 states do.

When a state takes steps to provide financial incentives to attract industry, it must decide how far it wishes to go. In the final analysis, it becomes a more basic question—How badly does Georgia want new industry? If the answer is "very badly," then it behooves the state to develop as many financial sources for industrial expansion as it can muster.

If Georgia is to be truly competitive in the financial end of industrial development, it must seek to find additional sources of money for industrial development purposes. In any event, it should establish and implement the same types of financing arrangements as its neighboring states with whom it is in direct competition.

SUPPORT OF THE STATE AND THE PUBLIC. To do a good job of industrial development in a state requires a marshalling of the strengths of all agencies involved in the field. More than this, it requires the support of the state government and the people of the state. The support of the state government is needed to bolster badly needed activities in the field, such as the promotional efforts of the Department of Industry and Trade, the research efforts of the University System units concerned with industrial development, and the broad programs of education and training of the Georgia Department of Education. The Department of Labor needs additional support to enable it to develop better manpower information systems, including the types of labor and skills that are needed as well as those that are available.

The support of the people is needed to assist in the passage of legislation helpful to the full economic development of the state's resources, including the manufacturing segment of the economy. Most often this support can be made manifest at election time when amendments to the Georgia Constitution are voted on by the public. The multiplicity of the amendments which appear on the ballot, as well as the diverse subjects covered, makes it almost impossible for the average individual to evaluate the merits of each proposal, unless he is willing to study them. Most of us are not inclined to do so, and frequently worthwhile amendments applicable to the industrial development efforts in the state have been voted down by the electorate because the public was relatively uninformed about the subject.

Georgia can ill afford to have its industrial development efforts fail for lack of public support. Nor can those who are promoting such activities do a half-hearted job of informing the public of the importance of striving to increase the quality and quantity of manufacturing in the state. There needs to be a continuing public education program emphasizing the importance of manufacturing as the primary wealth-producing activity in the state.

EDUCATION AND TRAINING. The one factor which is of overwhelming importance to the attraction of high-technology industries in the future is an improved and expanded educational and training program. There are many other considerations, but this one fact remains: if Georgia is ever to develop a large segment of sophisticated industry it must somehow provide the trained people that such an activity demands.

The basic problem in this area is well-known and documented. Battelle Memorial Institute reports that only 44 percent of the adult population of the Coastal Plains Region had eight or more years of schooling. In many counties in Georgia, the majority of the adult population at the time of the last census had never even entered, much less finished, high school.

The dropout problem continues and is in a large measure responsible for the low average years of schooling of the Georgian. It is beyond the capabilities of the individual school or teacher to do anything about this problem except in isolated, individual instances. The solution of this problem has to be massive and effective, and it transcends school district boundaries. To date, this massive effort has not been forthcoming, and it appears problematical that it will materialize. Instead, a number of ameliorating solutions are being tried which tend to help in some minor ways the overall problem without really resolving it.

Insofar as industrial development of the state is concerned, the needs are quite defined when it comes to education. There is a great need for adult education, there is a need for training in various skills for high school graduates, and there is a need to anticipate the type of training needed by industry of the sophisticated variety and to produce a body of individuals with these types of training. How much advance training of this sort the state can or is willing to do is a matter of conjecture, but some level of this training must be achieved if only as a token of intent to attract the high-technology industries. Study and analysis can identify the subject areas which probably will be needed in the future. Just the very fact of the existence of such training would probably stimulate the demand for the trainees, but the biggest impact might be the psychological impact such advance training might have on the potential high-technology industries for the area.

Summary of Problems and Recommendations

Many things can be done to improve the industrial development picture in Georgia.

Upgrading of the Quality of Industry Is Vital

If one accepts the premise that improvement of the per capita income in Georgia is a prime objective, the corollary also follows—this can best be done by a conscious and coordinated effort to attract highly sophisticated and, hence, high-wage industries. This premise has been advanced many times in the past decade and appears to have a general acceptance in many quarters; it has been consistently advocated by the Industrial Development Division of Georgia Tech over the years. The Coastal Plains Regional Commission recognizes it as a primary objective. Industrial development organizations endorse the concept.

The remarks that follow are based on this premise.

1. A CONCENTRATED EFFORT TO ATTRACT HIGH-TECHNOLOGY INDUSTRY IS ESSENTIAL. A plan to attract sophisticated industry must be devised and implemented. This implies a willingness on the part of all agencies interested in industrial development to assign a first priority to working with high-technology industries without, of course, ignoring other manufacturing opportunities. The differences between this approach and present operations relate mainly to philosophy and the allocation of effort. Rather than responding to inquiries almost entirely, industrial development agencies would have to consciously direct their energies to certain types of industry.

2. POTENTIAL HIGH-TECHNOLOGY INDUSTRIES FOR GEORGIA MUST BE IDENTIFIED. Competent agencies must assign part of their resources to the identification of the types of high-technology industries and companies which may have a potential interest in location in the state. This information must be developed and given to promotional industrial development organizations for their use. It must be effectively used or this effort will be wasted.

3. THE CAMPAIGN TO ATTRACT HIGH-TECHNOLOGY INDUSTRY MUST BE A LONG-TERM CONTINUING ONE, BUILDING ON THE BASE OF EXISTING INDUSTRY OF THIS TYPE IN GEORGIA. The campaign must include advertising in suitable media, calls on potential manufacturers for Georgia, and efforts to provide a more attractive environment for the type of industry in question.

4. PRESENT INDUSTRY MUST RECEIVE SUPPORT. The development of "home-grown" industry should be encouraged wherever possible, whether it be a new enterprise or the expansion of an existing high-technol-

ogy concern. Spin-offs from technically oriented operations, industrial or educational, should be encouraged through the creation of an environment or business climate favorable to such development.

5. THE ENVIRONMENT PICTURE MUST CHANGE. Everything that can possibly be done should be done. The personnel of high-pay companies generally have a greater than average interest in the cultural, recreational, and educational features of an area. These features obviously must be encouraged to grow with community support.

6. GEORGIA'S COMPETITIVE POSITION MUST BE ENHANCED. It behooves Georgia to have every possible tool in its industrial development tool kit honed to a fine edge. Vehicles such as statewide industrial development authorities or development corporations should be developed to provide additional sources of financing. Tax disadvantages in the treatment of industry which may exist relative to the treatment accorded to industry by surrounding states should be reviewed and changed to make Georgia more competitive. The development of research and science oriented industrial parks in certain metropolitan areas should be encouraged. This would act as a lure for scientific and technologically oriented industry. In fact, all changes which might make Georgia more attractive to outside industry should be considered on their merits and, where justified, these changes should be instituted.

Improvement of the Education Picture Is a Must

Georgia has made tremendous progress in education in recent years, and the situation which exists with regard to average levels of education is undeniably much improved over former years. The advent of the statewide system of vocational-technical training schools has also resulted in great advances in training.

However, as previously mentioned, the demands of high-technology industry for highly educated and trained persons require that additional efforts in these areas be made if success is to amount to more than specific and isolated location of such concerns.

1. THE POSSIBILITY OF INTRODUCING OCCUPATIONAL ORIENTATION AND TRAINING IN ALL HIGH SCHOOLS OF THE STATE SHOULD BE CONSIDERED. This was suggested by Dr. Grant Venn of the U. S. Office of Health, Education and Welfare in a position paper for a symposium on automation held this past year in Athens. The level of this training need not be intense, and the vocational-technical schools would still be needed for the more sophiscated training needs.

2. PROGRAMS OF READING, WRITING, AND ARITHMETIC NEED TO BE PROVIDED IN GREATER NUMBERS FOR THAT PROPORTION OF THE ADULT POPULATION WHICH IS BASICALLY UNEDUCATED. The individuals with this training would not fit into the high-technology picture, but they could replace other individuals who might by superior education and training move up to higher-paying jobs.

3. INTENSIFIED SURVEYS OF THE PRESENT AND FUTURE MANPOWER NEEDS OF INDUSTRY SHOULD BE FUNDED AND CARRIED OUT. This needs to be done in terms of numbers of workers needed and the skills required. These surveys currently are being done on a scattered basis in some areas of the state, but plans should be made to conduct them on a methodical, comprehensive basis all over Georgia.

4. COOPERATIVE EDUCATIONAL PROGRAMS AT THE HIGH SCHOOL AND UNIVERSITY LEVEL SHOULD BE DEVELOPED AND EXPANDED. This combination of education and employment provides the participant with a real insight into

the importance of productive work and puts the participant at ease when he begins working full time in the industrial environment after his schooling is completed.

5. PREEMPLOYMENT COURSES FOR THE UNEMPLOYED SHOULD BE EXPANDED. These would be aimed at providing the previously unemployed with some understanding of industrial operations, what is expected from employees of such concerns, how to conduct himself in job interviews, etc. Such courses have been pioneered in Georgia in recent years. One notable example was a course conducted in Carrollton by the Georgia Chamber of Commerce.

6. ESTABLISHMENT OF AN EXPERIMENTAL EDUCATION CENTER SHOULD BE CONSIDERED. A willingness to innovate in education and training might be fostered by establishing a center expressly for the purpose of demonstrating new techniques or equipment or developing new curricula which relate to preparing people for the new industries and jobs of the future.

All of the above activities would, of course, require an allocation of presently scarce resources. In addition, aside from the need for education and training with relevance to industrial development, there are many other demands and aspects of the economy which require education and training above and beyond that presently available. These, too, impose their sets of demands on the resources available to the state for education. Compounding the situation are the continually escalating numbers of students who are entitled to their education and training opportunities.

The allocation of resources is one of the most difficult decisions for education administrators. Industrial development is the greatest single wealth producer in Georgia, however, and to safeguard this economic essential, a large part of the state's educational and training resources must be directed toward this end.

Ross W. Hammond is chief of the Industrial Development Division, Engineering Experiment Station, Georgia Institute of Technology. Before moving into this position in 1965, Mr. Hammond was a research engineer for Georgia Tech and prior to that, industrial manager of the Lubbock, Texas, Chamber of Commerce. He received his M.S.I.E. from the University of Texas. Mr. Hammond served as Executive Director of the American Institute of Industrial Engineers for 17 months and as national president in 1966-67. His present responsibilities include administration of the overall program of the Industrial Development Division. He is currently involved in all phases of area development activity including industrial, community, and agricultural development, industrial engineering, management engineering, and economic research.

critique:

Industrial Development Trends and Forecasts

By H. Hearn Lumpkin,
Assistant Manager,
Industrial Development Division,
Georgia Power Company

FROM my experiences in the field of industrial development, I would agree with the basic conclusions of the writer and congratulate him on a thought provoking and honestly evaluated treatise. It is a real contribution to the field of industrial development. However, there are a few points which could be emphasized and enlarged.

Reasons Why Industry Locates

All factors enumerated by Mr. Hammond are valid. It could be stressed that, basically, industry locates where it can make the most money. Markets, availability of raw materials, and distribution figure prominently in the profit picture. To this must be added wage rates, availability of labor, productivity, and attitude toward organization.

Perhaps of greater significance than can usually be attributed are governmental image, laws not unfavorable to industry, and stable officials who are industry oriented.

Industry also locates because of service industries in the area, or because it may render service to existing industry. This is illustrated in Georgia by the carpet industry in the Dalton area.

Education

From my 25 years experience in industrial development and ten years in school administration, I believe the following general plan of technical education is worth consideration.

- Industrial arts in all junior high schools as an exploratory experience in the several facets of the trades
- A guidance program by counselors with a background in both industry and education — The fallacy of the present setup is that the counselor is strongly academically oriented and places too much emphasis on college attendance for all those with high scholastic records
- A cooperative program during the junior and senior years with the area vocational and technical

schools to give training to those pupils best adapted to a particular skill
- A sales program in the high schools to make vocational training more appealing and to give greater status to trades — Attending college has been overemphasized by academically trained teachers and administrators. The old "lint-head" image of the factory worker needs to be replaced with the knowledge that satisfaction comes from using each individual talent to the maximum.

Labor Shortage

This is, perhaps, irrelevant in Mr. Hammond's paper as this is a temporary problem and can change from area to area and from time to time.

Raw Materials

Perhaps it is well to add to the list of raw materials the large deposits of silica in Georgia. For the manufacture of high quality glass, Georgia silica is high in iron content. In the future, economc measures may be developed to separate this iron content.

Movement of Textiles from New England

There may be a lesson to be learned from the movement of textiles from the New England states in order that we may avoid the same mistakes. Over the years, I have talked with manufacturers from New England, and these are the reasons given for leaving that area.

- Industry was under one family's control too long. The members of the family ran out of the original talent.
- Industry was taken for granted.
- The community lacked awareness of the problems.
- Plants did not modernize.
- The burden of taxation was too great.
- Mills and equipment were obsolete.
- The local citizens were apathetic.
- Low wage rates in the South enticed industry.
- Unions become over-demanding.

Wood Products

Although employment is decreasing in the wood products field because of automation, there is a great deal of progress in development of new products. There is a surge of interest now in plants for new wood products.

Mobile Homes

Today there are more than seventy mobile home and related plants in Georgia. These employ some 6,000 people—principally men—and will produce more than 25,000 homes in 1969. Modular homes is the next most promising and logical step in this field.

Industrial Promotional Organizations

There is need for a greater cooperative effort among the many private and public agencies in the state. A professional organization, the Georgia Industrial Developers Association, is striving toward this goal. There is too much overlapping of activities — particularly by the universities, and by state, federal, and other governmental agencies. Something should be done to study and remedy this situation.

Other states with more coordination are whipping us to death on competitive prospects.

Research Center

A definite need exists for an intelligently planned research center such as the North Carolina Research Triangle. An embryonic attempt has been started by Athens Area Chamber of Commerce in cooperation with the extension division. This should be developed more fully and on a systematic plan by and for all Georgia.

Industry for South Georgia

This is the last frontier for industry. The area should develop much more rapidly. There are many advantages to be accrued by industry's locating in this section of Georgia. Water, so important to industry, abounds below the fall line. Labor is available; sites are topographically desirable; and there exists less labor activity and a cooperative citizenry. Years ago, there were health and climate problems below the fall line. These have been eliminated by air conditioning and public health programs.

Setting a Goal

It is important and should be re-emphasized that developers should approach industrial growth scientifically and analytically. For too long we have chased every rumor and every kind of prospect. We should determine what we have to offer, where we can meet a need or solve a problem. Then all groups should pursue the kind of industry Georgia could advantageously support. This means research and training of professional industrial developers.

critique:

Industrial Development Trends and Forecasts

By
John E. Mock,
Director,
Georgia
Science and
Technology
Commission

MR. HAMMOND'S article entitled "Industrial Development Trends and Forecasts" presents a reasonable and sobering evaluation of industrial development in Georgia. His analysis is most reasonable from the point of view that he has extrapolated current trends into the 1980's without attempting to introduce any alternate "future" based on probable (but unpredictable) technological and social changes which will have a major impact on our industrial system. For example, some economists believe that ours is an incipient "post-industrial" society [Rostow's "beyond high mass-consumption society"] in which our industrial system will soon become so productive that all reasonable wants (necessities plus luxuries) will be produced by a limited portion of the potential labor force. These economists regard the problem of the future almost entirely as questions of what to do with leisure time and excess production capacity and how to provide a feeling of satisfaction and self-realization in the individual now supplied by his daily work. However, to most of us who are barely post-Keynesian in our economic thinking, it is difficult to see the arrival of any such utopia during the next quarter of a century, much less within the timespan of the 1980's. Therefore, Hammond has charted what I consider to be a prudent course for the future.

Hammond's article is quite sobering in its prediction that unless drastic action is taken Georgia's per capita income will not only continue to lag behind the national average, but may fall even further behind. Based on the fact that the differential between state and national per capita income has remained at approximately $650 over the past two decades, there is certainly no obvious reason to suspect that we will break out of this pattern during the next 15 years. The picture is even bleaker for some geographical areas; e.g., whereas the income gap for the coastal plains regions was $618 in

1950, by 1965 it had deteriorated to $977.

Hammond makes the point crystal clear that only a determined and major program will help Georgia catch up with the national average—which I think any Georgian would consider to be at least a minimal aspiration. Hammond stresses the fact that improvements will not come easily and cheaply and must be paid for not only in time, money, and labor, but in societal and industrial dislocations and diseconomies occasioned by a rapidly changing situation. Assuming that a consensus can be formed in Georgia that the end objective is well worth the effort, then Hammond's blueprint for action offers concrete recommendations as to how the situation can be remedied.

One of Hammond's recommendations pertains to the attraction of high technology industry in order to build up Georgia's wage structure. Along this line it is interesting to note that since its inception in 1964, the Georgia Science and Technology Commission has recognized the need to strengthen Georgia's scientific and technical base in order to help attract high technology industry. Thus the Commission created the Ocean Science Center of the Atlantic to bring oceanography to Georgia, and is currently studying in depth the possibility of establishing a mechanism for bringing biotechnology or some other segment of the rapidly-growing health science industry to Georgia.

As Hammond points out so cogently:

> "The most easily identifiable solution to this [low per capita income] dilemma is to organize, plan, and implement a program aimed at the attraction of high-technology industries, those which are also high-paying industries, so that the maximum impact will be produced on the per capita income picture."

This agrees with the position taken by the Commission in initiating an internal study several months ago (a) to identify those factors having an important role in creating or attracting high-technology industry, and (b) to determine in what way the state could best use its limited resources to promote desirable activities. To date, the Commission has identified the following factors as being significant.

- The technical knowledge which makes new technology possible
- A community climate which is receptive to innovation, change, and growth
- A political and governmental structure which encourages new technology
- Availability of necessary labor and management skills
- A sufficient supply of risk-taking entrepreneurs
- Availability of venture capital
- Effective distribution and marketing systems
- Good schools, climate, and recreational facilities
- Adequate low-cost "incubation" facilities

Taking one of these factors as an example, viz., financing, it is interesting to note how closely the Commission agrees with Hammond, who states:

> "The financial picture in Georgia is neither good nor bad, as far as industrial development financing is concerned. The state has at its disposal an average array of financial tools. However, there is nothing daring or innovating which one could expect in a state which realizes that it has a long way to go to catch up with the U. S. indices for industrial development."

The Commission, in its July report of the High Technology Industry Committee, also stressed the need for more innovative ways of financing the creation of new high-technology industries. In follow-up action, it hopes to make an impact in this area.

Important as the growth of high technology industry may be—and we must face up to the fact that it is definitely a long-term endeavor—it should not be overlooked that a more immediate solution to many of the ills (unemployment and underemployment) suffered by many small towns and rural communities in Georgia may lie in attraction of relatively low-paying, labor intensive industries. Nevertheless, in the long run if Georgia is to get out of the low-income trap in which the entire South finds itself, it must look to better-paying high-technology industry as a partial solution.

To implement the programs discussed above and described in greater detail in Hammond's article, a definite increase in the level of education in Georgia will be required. High-technology industry will require more scientists and engineers, more technicians, and more skilled labor. This need will prove a continuing challenge to our educational system to provide *motivation* and ever higher levels of education to students from preschool grades through college level, to and including continuing adult education and vocational courses. The education problem will not be solved easily nor cheaply; nevertheless it must be done, for Georgia's future rests heavily on our success in significantly upgrading the education of the next generattion.

In summary let me say that Mr. Hammond has written a very competent, thought-provoking article which will be important to anyone interested in the economic development of Georgia. The article is sobering. Mr. Hammond "tells it like it is". But he offers possible solutions to Georgia's industrial development problems—solutions which pose a challenge to each of us. The economic future of Georgia depends upon our reaction to this challenge.

Agriculture in Georgia

By Fred W. Greer, M.A.

Assistant
Vice President,
Citizens and
Southern
National Bank

AGRICULTURE is a broad subject. This giant has made change faster than any industry I know. Change will continue to be the keyword because technology is increasing at a rapid rate.

I foresee somewhat limited expansion in Georgia's agronimic crop resources. Our greatest expansion areas are in livestock and poultry. Good possibilities lie ahead for beef and swine. But operation and management of these systems in 1985 will be quite different from today's operation and management systems.

Broilers and commercial layers will continue to be leaders of farm income in Georgia. Expansion in these areas will continue.

The outlook for vegetable production is good. The Southeast is one of the fastest growing areas in the country. Also, we have the advantages of location, land availability, and water. Our need is for more food processors.

Georgia's forest industry is a great industry. However, it is in real danger due to severe taxation problems. Adjustments must be made to prevent crippling this tremendous industry. The need for forest products is increasing. The opportunity to fill this need is Georgia's if we handle the tax situation properly.

The greatest potential for agriculture lies in the agribusiness sector. This includes such things as processing, marketing, and distribution. This is the area that multiplies dollars. Agribusiness is the area that means employment. Our energies must be behind the development of these industries. They support and utilize Georgia's farm and forest products.

The number of farms will continue to show some decline. But farm units will become larger and more highly capitalized. They will need more technical assistance. More of these units will become incorporated to take advantages of the benefits inherent in this type of agricultural structure.

There is a continuing need to keep the general public informed of agriculture's importance. It is essential for the public to understand the interrelationship of agriculture and industry.

From farms and agribusinesses there will continue to be a great demand for technological innovations, for research, for development both from experiment stations and from the private sector. Services rendered by the Cooperative Extension Service will become increasingly important. There will be no less demand for vocational training at the high school and adult level.

Increased emphasis should be placed on youth programs such as 4-H and FFA. Our greatest resource is people. Our investment in youth brings the greatest return. Four-H and FFA are the two programs that apply directly to agribusiness. But these programs have a more far-reaching effect; they also extend to urban youth.

Programs that will assure a financially sound climate for agriculture and agribusiness will be very important in the future. In addition to a program of agricultural policy, there will be a stepped up need for agribusiness training, research (both private and from colleges and universities), and Extension Services.

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AGRICULTURE has been one of the fastest-moving, technologically advanced segments of our entire society. Change will continue to be the key. This is because of many forces, from many directions. They include the efforts of research, technological innovations, efficiencies, labor-saving devices, sophisticated uses of capital, and the necessity to survive in a competitive field.

There is an urgency about adjusting present methods to meet changes of the future. Changes in the past have been in all phases of production, harvesting, processing, and distribution. But these changes will be dwarfed by those we will see by 1985. Technology and its application is increasing at a faster rate. The time lapse between discovery or innovation and commercial application is decreasing.

Our people must understand that agriculture is a fundamental industry. It provides our basic needs. It creates new production and new wealth each year. In short, it is the foundation of our survival.

Therefore, we must attempt to recognize the changes that are coming and guide them in such a way that this agricultural giant will best serve our needs.

A Review

I feel it is important to review briefly where we have come from. This will help us realize the speed with which we have reached where we are today. There have been more technological advancements in agriculture within most of our lifetimes than there were in all the history before we were born.

It is eye opening to see what has taken place in agriculture during this century. At the beginning of the 1900's the average farmworker in the United States produced enough food and fiber for himself and six other persons. In 1968 he produced enough for himself and 43 others, including five persons living abroad.

Table I

Gains in farm productivity have been particularly significant in recent decades. From 1900 to 1940 the number of persons supplied by one farmworker gained only 54 percent. The next twenty-year span (1940-1960) saw this percentage more than double. And a 64 percent increase has already occurred during the first seven years of this decade.

Helping farmers achieve these impressive gains are the many workers in the farm input or marketing industries. Every farmworker is now backed up by more than two nonfarm employees located at both ends of the food, fiber and forest products pipeline.

The idea of one mule per man and 40 acres is fast disappearing. Subsistence agriculture is a thing of the past. Of necessity farms today are on a commercial and very businesslike basis.

Agriculture in Georgia has undergone impressive changes, especially over the past 15 to 20 years. Cash farm receipts have fluctuated during this period but have consistently increased. In 1950 total receipts were $375,152,000 compared to $1,118,918,000 in 1968.[1] The 1968 figure was $14,000,000 more than 1967.

Expenses have also risen, however. This, along with other factors to be brought out later, has contributed to a decrease in the number of farms and the farm population. Farm population has dropped from 320,000 in 1950 to 139,000 in 1965. This is a decrease of 181,000—almost 57 percent. Figures for 1968 would reveal an even smaller farm population. At the same time the number of farms has fallen from 198,191 to 83,366. This is a drop of 114,825, or 58 percent.

Of course, the number of farms and farmworkers is by no means the standard by which agriculture and its significance should be measured. Today's commercial farmer is operating a much larger unit with a much greater amount of capital.

Comparing total cash farm receipts in Georgia with the number of farms and farm population, census information reveals some interesting figures. In 1950 the per capita cash receipts were $1,172; in 1965 they were $5,992. In 1950 the average cash receipts per farm were $1,894; in 1965 they were $9,955. These figures reveal some of the growth pattern in Georgia's agriculture.

Likewise, there have been important changes in the principal sources of farm income—some steady and some drastic. Crop farm receipts increasd from $233,384,000 in 1950, to $367,423,000 in 1965 to $414,970,000 in 1968. This is a substantial increase, but nothing to compare with the increase in livestock and livestock products. These jumped from $119,928,000 in 1950 to $457,928,000 in 1965 to $623,761,000 in 1968. (Livestock and livestock products presently make up about 60 percent of Georgia's cash farm receipts, compared to about 40 percent for crops). The most significant change occurred in poultry and poultry products. About 1956, or 13 years ago, poultry replaced cotton as the largest single source of farm income in Georgia. In 1950 poultry receipts amounted to $45,022,000, while in 1968 they amounted to $374,174,000. This is an increase of over 83 percent.

So the enterprise structure of Georgia's agriculture has undergone a vast shift. Twenty-five years ago more than 75 percent of the state's farm income came from the sale of crops. This compares to less than 40 percent today. Currently, better than 60 percent of the income comes from livestock and livestock products, including poultry.

Investments in farm machinery and equipment have grown rapidly. In addition to greater numbers of machines of all types, there are larger machines, with more power and more specialized equipment. Machinery, equipment and capital have become substitutes for labor.

Chemical agriculture is also growing at an accelerated rate. New insecticides, fungicides and herbicides to control crop and livestock pests are becoming not only more important, but more necessary, each day. Custom services are becoming a common part of the Georgia agricultural scene.

What Is This Thing "Agriculture" in Georgia?

Today's agriculture is the foundation of the most complex economy known to man. Georgia's role is a big one. Agricultural products produced here are enough to rank the state fourteenth in the nation, based on prices received.

Agriculture is important because it supplies abundant food to satisfy our exploding population. Equally important, it provides the raw products which keep a huge part of our industrial machine humming.

The typical farmer is quite different from his popular image. Today's successful farmer is a good businessman. He is knowledgeable in plant and animal science, economics and engineering. Of necessity, he must be a specialist of many fields. His capital resources are large.

And his number is declining. Fewer and fewer of these men are producing more and more, on larger farms. Increased production to meet the needs of the people rests more heavily on fewer people, people who can compete in this day of keen competition, the cost-price squeeze, and advanced technology.

Georgians are operating approximately 78,000 individual farms which occupy more than half of the state's land area. It takes an estimated three-quarters of a billion dollars invested in farm machinery to operate these farms. Included are more than 90,000 tractors and an increasing amount of accessory equipment and other specialized machinery. Georgia has approximately 2,800 mechanical cotton harvesters. These harvesters cost up to $26,000 each and are another example of high capital requirements. Average figures do not tell a clear story at times, but the average gross income per farm in 1968 in Georgia was $13,152.

Our state ranks first in the U.S. in production of broilers, peanuts, naval stores, pulpwood and pecans of improved varieties. It ranks second only to California in egg production. Almost one-fifth of the nation's naval stores and one-fourth of its pecans are produced here.

Whether they know it or not, all consumers have a close relationship to the man on the land. For example, recently milk deliveries in Chicago were interrupted for just two days, and the supply of milk was nearly exhausted in that city. In some instances milk was sold only to those with a doctor's prescription.

But the relationship goes much further than food supplies. Our efficient agriculture relieves manpower and other resources to produce non-food consumer goods and services. Much of modern medicine, science and education is possible because almost 95 percent of our population is released from direct farming activity and is thus available for work in other fields.

Interrelationship of Agriculture and Industry

This thing called agriculture in Georgia cannot be isolated and operated seperately from other segments of our state's economy. The interrelationship of agriculture and industry is very necessary, for one greatly depends upon the other. This all comes together into a complex known as agribusiness.

Only about one out of 10 Georgians works on a farm. However, agriculture contribution to employment is much greater. The agribusiness complex supplies the farmer and processes his products. In fact, more than 70 percent of the state's industrial jobs depend on farm and forest products. Two-thirds of the typical commercial farm's production costs are for purchased items bought from a host of sources away from the farm. Farm families are regular customers for food, clothing, medical care, furniture, appliances, automobiles and the thousands of other consumer goods and services. There is a vital bond between agriculture and industry. Agricultural products must have a place to go after they are produced. Industry utilizes these products and also supplies the needs for farm production. It is not difficult to visualize the complete circle formed in this chain of events linking agriculture and industry. Each depends upon the other.

"Agribusiness" is a coined word that covers a big subject. It includes the sum total of all operations involved in the manufacturing and distribution of farm supplies and equipment; the storage, processing and distribution of farm commodities and items made from them, as well as the actual on-farm production operation. Another similar concept of agribusiness is all those steps necessary in servicing, marketing, processing and distributing a product from the time the product is produced on the farm until it reaches the consumer.

At one time, farm production alone was the concept we interpreted as agriculture. This is no longer true. In many cases farmers are following their product and are involved with it at various levels of integration along its route to the consumer.

Agribusiness is a reality . . . a giant from which agriculture cannot be segregated.

Productivity — A Current Look And a View for 1985

Up to this point I have attempted to prepare an introduction, review the past and to identify or define agriculture. Now let us begin to look at the status of agriculture today and the directions in which it may be moving in 1985.

Livestock and Poultry

Livestock and poultry have become more important income producers to Georgia farmers than have crops. About 1956 or 1957, livestock and poultry for the first time exceeded crops as an income source. A current release by the Georgia Crop Reporting Service indicates that approximately 60 percent of Georgia's cash farm receipts from marketings in 1968 came from livestock and livestock products, including poultry. This amounted to $623,761,000.

Georgia has many natural advantages for livestock and poultry production. The state is the hub of a very rapidly growing area. Its people have pioneered in utilizing the latest technology, especially in the production of poultry and eggs. Georgia also has good natural resources for production of forage for livestock. Much of the land that had been used for crops, and was actually ill suited for that purpose, has been more efficiently converted to livestock production. Of course, capital, labor, controls and many other limiting factors related to crop production have contributed to the expansion of livestock.

Let us take a closer look at some of the major livestock and poultry enterprises.

Beef

Georgia has experienced a definite and strong upturn in cattle numbers in recent years. The climate, providing a long growing season for grasses, is good for beef production. Through research and application of modern beef methods, Georgians have encouraged growth of the cattle industry. We are a leading state in the nation in the beef cattle improvement program. This program is processing data and providing production records on over 10,000 beef cattle at the present time and the number is increasing rapidly. We have jumped from a total of 1,396,000 cattle and calves on farms in 1959 to a total of 1,870,000 as of January 1, 1969. During this same time cash receipts from sales of these animals have risen from $62,099,000 to $92,661,000. The 1968 figure represents 8.9 percent of the total cash farm receipts in Georgia. Of the 10 states with the largest gains in numbers of beef cattle over the past five years, Georgia ranks seventh, with a 27 percent increase.

Still, Georgia remains a deficit beef producing area. Its potential for production is limited not so much by physical factors as economic factors. A commercial cow-calf operation returns a low net profit on investment. Investment and land cost, at present prices, are high. Good brood cattle are expensive and other capital investment expenditures are large. Only top managers of commercial cow-calf operations can make a reasonable profit. Management is a key factor.

I am convinced that feeder calves can be held and fed for additional profit in Georgia. Grain can be shipped into the state at less cost than we can ship feeder calves out of Georgia to other states, have them fed there, slaughtered, and their carcasses shipped back to Georgia. Many good managers in Georgia have been able to make good profits feeding steers and heifers in this state. As in any business, management seems to be the limiting factor. Most Georgians have not had the years of experience in cattle management that some cattlemen in the midwest and far west have had. However, we are learning.

The number of cattle in Georgia will continue to increase. Even though it is an enterprise with a low profit margin—particularly in beef cow-calf operations—we still have large areas in the Coastal Plains which could be converted to pastures and other forage producing units. In addition, our experiment stations and other research units are continuing to develop efficiencies of production related to breeding, better forages, antibiotics, growth stimulants and better performance testing for animals.

I foresee three definite situations, any of which could greatly hinder beef cattle operations in Georgia, particular cow-calf units. The first pertains to increased land cost which necessitate a higher return per acre to justify its use for beef cattle production. Secondly, continued increases in ad valorem taxes provide additional problems, and thirdly, foreign beef imports into this country.

Other areas in the world which are presently increasing cattle numbers are in South America, New Zealand and Australia. With low cost land and labor, these countries are producing beef at a much lower cost than the U.S. If we allow imports of beef into this country without restriction, then there is a possibility that we could not economically afford to produce beef under our present costs. This factor, of course, relates directly to import-export policy of this country.

Regardless of these policy situations, I believe land costs will continue to increase. Therefore, our producers will be seeking more efficient, better gaining livstock and increased profit per acre. I believe the cost trend will be such by 1985 that one cow per two acres of land will not be economically feasible. The result is that we will find more confinement and drylot feeding of beef. The acres of land will be used on an intensive basis for production of forages which in turn will be fed to the cattle for more efficient utilization and a higher output of beef on a per acre basis. We will continue to need research to find better ways for this efficient utilization and to develop animals with a high gaining capacity.

Our beef cattle numbers will be larger in Georgia by 1985. The number of units will be fewer but larger. And they will be more efficient than those we see today. Georgians will be feeding more steers and heifers for the fed slaughter market than they are feeding today. One of the next major steps will be increased integration in beef cattle industry. We probably will see a significant turn in this direction.

Dairying

Production and consumption of Grade A milk in Georgia is gradually on an increase, with the increase in population. However, the number of milk producers in Georgia has been decreasing. The remaining dairymen in the state are growing larger and more efficient. Dairying is indeed a specialty field. Not only has herd size increased, but average production per cow has increased as well.

The state's 1,200 dairy farmers represent an investment of at least $160,000,000.

In 1959 dairymen in Georgia received $49,734,000 in cash receipts from dairy prdoucts compared to $64,544,000 in 1968. Agribusiness generated by dairying greatly increases this. Processing and distributing milk and its products provides 15,000 jobs and an annual payroll of $35,000,000 in the state.

I am convinced that we will continue to see a decline in the number of dairy farms. However, there will be much larger units than we have ever known before. I foresee large scale operations that will milk in shifts around the clock by 1985. Some of these units will contain from 500 to 1,000 animals in the milking herd. Though we will continue to see milk substitutes take a larger portion of the market, milk will continue to be vital and in demand.

Investment capital needed for dairying, already higher than for any other type of farming enterprise, will continue to rise. The dairy industry in recent years has been built on a foundation of production records, probably more so than any other area of agriculture. Selective breeding and production testing have made for efficient production by the dairy animals.

By 1985 I expect no more than half the number of dairymen we have today. The capital investment in these businesses will easily double or triple what it is today.

Dairying will take this trend because of the high degree of specialty required in animal breeding, management and nutrition. In addition, the industry requires constant supervision and skill. In many cases, alternative uses of the capital are more attractive. I see somewhat of a stabilization within the dairy industry in the not too distant future.

Swine

Pork production in Georgia is a growing business. Historically, Georgia has not produced top quality hogs. However, this picture is changing rapidly. We have changed from an area where hogs were primarily used as crop gleaners to first class pig parlors and farrowing operations. Efficient management and an adequate supply of grain are essential. Good markets are available in most areas of the state.

The competitive position of hog production is naturally of interest. As acreages of allotted crops in Georgia have been reduced, many farmers have sought other enterprises to utilize their labor and land. Swine production is one adjustment opportunity available to farmers in the state. Thus we have seen this industry grow rapidly.

Georgia is still a deficit pork producing area. Large quantities of pork consumed here are produced in the Midwest and shipped into the state to be slaughtered.

The number of hogs decreased slightly from the late 1950's to the middle 1960's but now have begun to increase again. The number of hogs in Georgia in 1959 was 1,728,000. Cash receipts from hogs that year totaled $52,876,000. Numbers in 1968 amounted to over 1,300,000, yet the income of $73,552,000 was much larger.

We seem to be in a real era of swine production opportunity in the state. Georgia farmers are studying this business carefully and are applying the best management skills. Heretofore, much of Georgia's swine production has been secondary to other farming activities.

In my opinion, one of the most rapidly changing agricultural businesses in Georgia is swine production.

We are seeing quite a number of units being installed across the state and being operated very efficiently. I look for hog production to become highly specialized. It will also become somewhat of an integrated industry, similar to the level of poultry, by 1985. This does not mean the swine industry will be as large as the poultry industry in income. I do not believe swine will increase to that extent. However, I feel that the swine industry in Georgia will become closely associated with feed and slaughter companies which will assist with financing and management of each operation—from farrowing to slaughter to distributing to retailers.

We will see very sophisticated production units. We have already witnessed some of the most advanced research on swine breeding, feeding and management in recent years. This is only the beginning.

In summary, the swine industry in Georgia will grow quite rapidly on a very highly specilized, and eventually highly integrated, basis. This should be a growth industry that affords good opportunity for Georgia farmers. It will be highly automated, and, unlike the dairy industry, will afford farmers the opportunity to handle other enterprises and activities related to agriculture.

Broilers

The story of Georgia's broilers industry is a phenomenon itself. Most of us are aware of the fact that Georgia ranks first in the nation in production of broilers. In fact, Georgia produces almost one-fifth of the nation's supply. The 437,000,000 broilers produced in the state in 1968 would provide every man, woman and child in the United States with more than two broilers each.

Broiler production in 1968 was 815 times that of 1935. In terms of income, this industry sold $200,249,000 worth of live birds in 1968. The level of broiler sales has hovered near this point since 1965. The high was $224,903,000 in 1966.

The broiler industry provides many jobs through the feed industry, production of birds, processing, marketing and distribution. The Georgia poultry industry utilizes more than double all the corn production in Georgia—represented by 1,455,000 acres and 58,200,000 bushels produced here in 1968.

The broiler industry is highly integrated with feed companies and processors handling in most instances the entire production, processing and marketing of these birds. The production of broilers is indeed the most highly integrated agricultural industry in Georgia.

Georgia has been a leader in poultry research and development. I see no reason why it should not continue to be in he forefront. I believe the poultry interests in Georgia will become much larger than at present. Disease problems, along with ventilation problems for housing, will be solved so that we will have a half million to one million bird broiler operations in a concentrated area. (These operations will produce from one-half to one million birds per week.) The centers for processing, handling, freezing, shipping, etc., will very likely become a part of some of these larger units.

There will be a larger increase in the number of broilers, but at a more even rate than we have seen in the past. The technological advancement and efficiencies of production, such as housing and processing, will probably continue at a rate faster than other agricultural enterprises. This is due to the research that has already been done, plus the many biological advantages that poultry offers for experimental purposes.

Difficult as it may seem, I foresee by 1985 advancements and changes in the broiler industry comparable to those we have seen in the past 15 years. There will be significant advancement in the utilization or end product use of the broiler itself, particularly in the form of food products for human consumption.

Commercial Layers

Georgia's commercial egg industry is a relatively new one, but it has grown by leaps and bounds. In this situation, there have been many problems, particularly in areas of marketing. Georgia started in this industry with the latest in technology and equipment. Other areas of the county had obsolete housing and equipment and outmoded production practices. Georgia changed quickly from an importer of salable eggs to one of the major exporters in the country. Our state now ranks second in production in the U.S.

Commercial egg production in 1968 accounted for $174,000,000 in cash farm receipts. Georgia's egg farms are increasing in size, efficiency and grade of specialization. An increasing number of these farms exceeds 50,000 hens each. Georgia is geared for production of eggs. It has done much to develop a system of marketing here and has linked with a national system. There is no reason to look for anything other than a continued increase in egg production. However, the rate of increase will be less than we have experienced recently. Operations will become larger and more highly specialized. By 1985 Georgia's egg industry will have increased substantially from what it is today. We will find it a very competitive industry with quite a bit more integration—similar to what we find in broilers today. But we will still see a number of independent growers marketing top quality eggs quite competitively.

The industry will continue to see its ups and downs as far as prices are concerned. However, with larger units coming into being and a sound egg marketing structure existing and growing in its effectiveness, we are likely to see more steadiness or leveling of prices.

The commercial egg industry is here to stay. In Georgia it is a growing industry—one which we will not recognize in 1985 in comparison with today.

Crops

Georgia's crop resources have been a source of livelihood for farmers since the first settlement of this state. And historically, until 1957, crops held the reign of being the main provider of agricultural income. At that point livestock and poultry took the lead. There are many reasons for this. Georgia had many small farms that were inefficient and not suited or adapted for economical production of certain crops.

In recent years there have been rapid technological advances in the form of better seeds, agricultural chemicals, mechanization and larger operating units. These factors all combined to have a definite impact on Georgia's crop economy. In the future, some of Georgia's crops are going to play a lesser role than in the past while others will become more important. There is one other important factor which I feel has contributed to crop diversification, and also to an increase in livestock. That is, with certain high fixed costs of land, buildings and equipment, yet with limited restrictions imposed by various crop allotments, our farmers have been forced to find other means and methods on the farm to produce income. This also hase contributed to the increased number of larger farm units.

Now let us review the major crop enterprises.

Peanuts

Commercial peanut production is concentrated in the Southwest Coastal Plains area of Georgia. Production of peanuts has become rapidly mechanized. Harvesting methods have been streamlined. Most peanuts are sold in bulk at harvest time. Under the peanut acreage program, the total acreage planted in the nation is rigidly controlled. Farms have individual allotments based on history of peanut production on that particular farm. Peanuts are considered by farmers to be one of their favorite crops. It is one of their higher income producers.

Georgia leads the nation in peanut production, with one-third of the U.S. supply. For several years peanuts have led Georgia's other crops in providing the highest cash receipts. We have seen peanuts more than double in the cash value sold from 1959 to 1968, yet on a smaller acreage. Some 490,000 acres of peanuts in Georgia produced cash to farmers in 1959 of $47,024,000. In 1968 an acreage of somewhat less than 480,000 produced an income of $111,-464,000. Georgia has experienced one of the most rapid gains in production, practically doubling the yield per acre in less than 10 years.

There are rigid acreage and price control restrictions on peanuts. These are necessary to prevent a surplus, for our potential to produce these nuts is tremendous. I can only see continued tight controls, unless for some reason there is a substantial increase in consumption or usage requiring the need for increased production.

I actually foresee more restrictions or reduced allotments for this commodity, simply because production is outstripping the use and consumption of these nuts. In addition, soybeans are having their impact, along with other substitutes, in competition for peanuts. Also, other areas of the country have great potential for production of peanuts. Georgia will probably continue to be a major producer, but with limits as to how far it can go in the future.

By 1985 I foresee that Georgia will be very much in the production of peanuts, but with a smaller acreage and yields double what they are today. There will be fewer commercial shellers of peanuts, but it is my hope that more firms that process nuts will be brought into Georgia and the South near the source of supply.

The peanut has made many contributions to mankind in many ways other than as a food product. Through research I hope that more uses can be found for this commodity and that its market potential will be expanded. In summary, I foresee limited expansion in the peanut industry of Georgia by 1985.

Tobacco

Tobacco has long been known to Georgia farmers in the tobacco belt as being the most important cash crop to be found. Everything else was dropped when tobacco needed tending. For several years it has consistently been a top money crop, second only to cotton at one time and now second only to peanuts. The 1960 value of the Georgia tobacco crop was $77,335,000 compared to the 1968 value of $77,-372,000. The value of this crop has varied only slightly over the years.

Georgia produces a very high quality flue cured tobacco that is much in demand. However, its potential for future expansion is somewhat limited. I foresee no drastic changes for the tobacco situation in Georgia for 1985, except that we will probably have a smaller acreage. This is particularly true if government restrictions are still in effect. We seem to find that tobacco farms, like others, are becoming larger units of operation. The smaller allotment farms are ceasing production due to labor shortage and other restrictions.

Cotton

So many things could be said about this crop. It has so affected the economy of this state that a short statement here would not adequately cover its true significance. Cotton, Georgia's leading crash crop for many years, has taken a lesser position in recent years. As most of us know, at one time Georgia's well-being practically depended on the cotton economy. There have been many factors to change this picture—mostly for the good. As a result of cotton's decline, we have seen a great diversification in Georgia agriculture and a more healthy agricultural economy. By the same token, the decline of cotton has created other problems, including labor migration and other effects on small rural communities and also on larger cities.

We have seen cotton slide in rank to generally fourth and fifth positions as a major cash crop to Georgia farmers. The year 1967 represented the lowest acreage and lowest cash income ($31,833,000) of any time in Georgia's history. As a comparison the decline trended down from 655,000 acres in 1959 valued at $85,907,000 to 395,000 acres valued at $31,833,000 in 1967. In 1968 the figures were slightly higher. Much of the Georgia agricultural sector has been "geared out" of cotton production for alternatives such as livestock, poultry, soybeans and corn. These crops have been readily applicable to mechanization.

Cotton has been a problem crop to many producers. A breakthrough for efficient cotton producers came when allotments could be transferred from one county to another in the state. This allows for consolidation of allotments and for a farmer to secure an allotment large enough for the high mechanization needed for this crop. In addition, research has made varieties available to Georgia producers that are comparable in fiber qualities to those grown in the western United States. As a result, we have seen tremendous progress in the quality of cotton grown here in Georgia. Heretofore, much of our allotment was in very small acreage scattered over many small farms that were inefficient and uneconomical units. Today many of Georgia's farmers are geared for large acreage and high quality production. They are producing a quality cotton meeting the demands of textile manufacturers.

I do not see a major comeback for cotton in Georgia, but I sincerely believe that the top 15 percent of producers in this state will continue production on an economical basis. Unless legislative measures build larger problems for Georgia cotton producers, I believe that we will still have some top units by 1985. Nevertheless, I believe the number of farms producing cotton will be less than half the number today. Acreage planted will be comparable. This may be a maximum forecast as far as acreage planted is concerned. I cannot foresee bright opportunities, as several other areas of the world are presently outstripping us in cotton production, particularly costwise.

In my opinion, the greatest bearing of all will be the response or effect of world supply and export-import balances. I do not believe that legislative measures are going to protect cotton in this country to the extent that it has in the past, and to this extent and degree Georgia cotton producers will be affected.

Prices of cotton have opened the door for man-made fibers to fill the need at lower cost. In 1968, cotton had to forfeit its crown as it was removed from its top spot in relation to man-made fibers. Man-made fibers took 52 percent of the total fiber consumption in 1968, with cotton being 43 percent.[2] Cotton must very definitely reckon in some manner with man-made fibers in the years ahead if it is to survive.

Soybeans

Soybeans have been called Georgia's "Cinderella crop" and rightly so. Soybeans have made a storybook stride into the agricultural economy of Georgia in recent years. As late as 1963 Georgia harvested only 106,000 acres of beans representing sales of $4,127,000 to farmers. The year 1968 saw Georgia harvest over 600,000 acres of soybeans returning $21,520,000 to growers. Soybeans have provided a cash crop and alternative for farmers seeking new ways to increase their income. At present there are no acreage restrictions on beans, and expansion has been quite rapid. It has taken up the slack felt by so many from cotton. Much of the credit to this expansion in Georgia should be given to the educational efforts and assistance by county agents and agronomists of the University of Georgia Cooperative Extension Service. In addition, our experiment stations have made great strides in developing varieties to meet the particular needs of the areas in which they are grown. Soybeans are very sensitive to soil and light conditions and varieties must be adapted that will more closely fit the demands of the area in which they are grown.

I do not think we can expect expansion to continue as rapidly as it has in Georgia over the last three or four years. We have seen a rapid expansion of beans in many other areas throughout the country and have for the first time reached a supply to meet the demand for this commodity. Nevertheless, research has discovered many synthetics and products for which soybeans are used. They can be grown economically and return great yields of protein on a per acre basis. We seem to be on a threshold of additional breakthroughs for their use in synthetics, foods and many other products that will be beneficial to mankind.

Unless we have rigid restrictions placed on soybean production, I foresee Georgia making a continued expansion in bean production. Varieties have been adapted that will meet Georgia's needs, and our producers are becoming educated rapidly as to the specifics required for high yield production.

In addition, the market is here. Georgia's need for additional soybean meal for poultry feed alone is enormous and will continue to grow. The most modern soybean facility in the world has just been completed in Valdosta and will serve as a marketing facility for handling all soybeans produced in South Georgia and surrounding states. The future looks good and I foresee a very significant expansion in soybean potentials by 1985.

Corn

Corn has made great progress in Georgia. It has come from a secondary crop position, or one just to provide feed on individual farms, to a major cash crop. Our farmers have approached corn production on a very businesslike basis and our better producers are returning per acre yields comparable to those grown in the midwestern states. Farm income from corn sales in Georgia in 1968 amounted to $38,883,000. This was down considerably from the all time high of $52,223,000 in 1967—the best year in Georgia corn history. However, 1968 was a poor year due to drought conditions in many areas of Georgia.

Corn yields climbed from an average of 27 bushels per acre in 1959 to the all time high of 52 bushels per acre on a statewide basis in 1967. Over half of Georgia's corn production is used on farms where it is grown. Adding the value on corn used on the farms to that for cash sales places the total value of corn grown in Georgia in excess of $80,000,000 annually.[3]

Though we have made great strides here, about two-and-a-half times the total of volume of corn production in Georgia is used in this state annually for poultry feeds alone. In other words, we are a corn deficit producing state.

I cannot foresee Georgia in the next 15 years meeting its grain needs. And I cannot believe that we should make an all-out effort to do this, as the midwestern area foreseeably will be able to economically produce much more corn than it is presently producing. However, our progress is significant here with new varieties, chemicals, mechanization, and irrigation. I can foresee Georgia having the potential to double its corn yields by 1985. We are seeing a great influx of irrigation. In addition, plant breeders are continuing their efforts to develop a corn plant with the potential of producing from 300 to 500 bushels per acre.

We have seen quite an increase of farm grain storage units related to corn drying and storing. We will continue to see this for sometime. The cash crop aspect of corn is going to continue upward here in the state.

Forages

Forage production may seem to be an insignificant aspect of Georgia's future agricultural economy. However, I feel I should point out this segment of farm productivity because it will become significantly more important than it is today. Forages include hay, silage, haylage, green chop and all other roughages that are normally fed to cattle in this state. Georgia is naturally blessed with climate and resources for abundant production of grass and forage. We have already made great strides in grasses, an example of which is Coastal Bermuda. This grass alone has contributed much to the pasture quality and production in Georgia and also to the hay segment which has allowed for the expansion of the Coastal Bermuda pellet industry.

In addition, due to labor shortages and a need for higher returns and more efficiency per acre, silage and haylage have been on the increase. Silo construction has been on a rapid rise in Georgia, and I feel this trend will continue. A review will show that the midwestern area of our country is quite well established in silos and is even continuing this expansion. In comparison, the Southeast and Georgia have really just begun to move in this area. The livestock industry expansion in Georgia is requiring this increase. Dairymen have found that consolidation of units, increasing herd size and the need for more production per cow, high quality silage and haylage have helped to meet these needs.

In addition, we are going to see the same trends in beef feeding. Presently, the most economical and profitable way to feed cattle in Georgia (steers and heifers for slaughter) has been silage. Our potential for livestock expansion lies in this area. The contributing factor from increased forage production in Georgia is not going to be direct dollar income from these products but instead as marketed through milk and beef. In my opinion forage production is going to be a major key in continued livestock expansion and the means by which livestock production will be a profitable enterprise for Georgia's economy.

Vegetables and Truck Crops

Surprisingly to many people, Georgia's truck crop income is quite substantial. The 1967 and 1968 crops brought receipts to Georgia farmers of $43,585,000 and $40,224,000 respectively. Many things are in our favor for moving forward in this field. We have in Georgia some of the finest farmers' markets to be found anywhere. In addition, due to location and natural resources, I believe that Georgia will be able to attract major food companies into its southern region. These will provide an increased market for farmers. We have made some gains in contract farming of vegetables, but most is still done on a small unit, individual basis. Peas, beans and turnip greens have made significant increases in recent years. These items are mechanically handled throughout the production process.

To a great extent, vegetable production in Georgia is an untapped enterprise that can become a better income producer for Georgia farmers in the future. Georgia should make every effort to attract food processors. Vegetable production would be handled by contractual arrangements between companies and growers. I feel this is the best approach to take. If we can make some breakthroughs with companies, a tremendous potential for our agricultural economy lies in the area of vegetable production. A change comparable to that which has taken place with soybeans could be made with vegetables in this state by 1985.

Forest Resources

In reviewing the nineteen areas of study which the Commission on Educational Goals will review, I noticed that forestry was not included as a separate economic area. Forestry is of such extreme importance to the state's present and future economy that I am including it as a major topic. Its significance is greater than most Georgians begin to realize. It has an important bearing in that commercial farm acreages usualy contain a portion of timberland and is the lifeblood of production income to many private individual owners as well as corporations.

A recent report of the Georgia Forestry Commission showed approximately 66,000 jobs in Georgia's timber industry. These workers earned wages and salaries totaling almost $300 million. There are more than 900 forest industries in the state, and the economic value generated by the timber crop and its processing and utilization functions amounts to well over one *billion* dollars annually.

During 1967 (latest figure available) Georgia forest landowners sold almost 1.2 billion board feet of sawtimber and approximately 5½ million cords of pulpwood. In addition, there were other valuable forest crops harvested such as pine gum, crossties, posts and stumpwood. This is the raw material that provides 66,000 jobs, and these are the raw materials upon which an industry worth more than one billion dollars a year to Georgia's economy is based.

Tax Dangers

Unreasonable taxes can kill the state's second largest industry. Georgia is seeking new industry on the one hand while greatly hindering, if not destroying, her second largest industry. The timber industry now adds more to the economy of the state each year than any other industry except that of textile manufacturing. Yet the resource which supports this industry, growing trees, is in grave danger of becoming depleted through unreasonable ad valorem taxes.

Let us not be misled—Georgia is headed for a one-crop timber economy unless the trends in ad valorem taxation on timber and timberland are changed. That one crop is, of course, pulpwood. The Georgia law states that standing timber shall be taxed separate from, and in addition to, the land upon which it grows. As the timber increases in size, the tax rate is increased. Under this system of taxation, growth which occurs the first year of the timber's life is taxed 29 times if the stand is harvested at 30 years of age. Growth put on the second year is taxed 28 times and so on through the rotation.

All other agricultural crops are exempt from ad valorem taxes. Why not treat timber as an agricultural crop? It is the one crop that has to be kept and nurtured for many years before any income can be realized.

The sawtimber industry is doomed unless some more equitable system of taxation can be worked out for timber and timberland. The promising new southern pine plywood industry will never reach its great potential in Georgia's economy as long as we have unreasonable tax rates on growing timber. The management program on Georgia's timberland is toward shorter and shorter rotations, meaning smaller and smaller trees—and in the end the one-crop timber economy—pulpwood.

A determined effort was made in the 1966 General Assembly of Georgia to get a more equitable system of taxing timber and timberland. Senate Resolution 15 was soundly defeated in the House of Representatives. Briefly, the substance of this bill provided for the taxing of timberland according to its productive capacity. Good land would be taxed at a higher rate than poor land. Surely the bill, had it passed, would have stabilized the tax situation on timber and timberland and thus would have been helpful to the timber grower as well as to the county governments.

Land Ownership Pattern

Georgia has a good land ownership pattern. There are almost 200,000 owners. This means that timber is available in all sections of the state and can be used to attract new wood-using industries. A reasonable tax program will help maintain a large number of owners and help maintain a varied and thriving timber economy.

Time Is Money

The growing of a timber crop takes time. Interest on the timber growing investments is often quite burdensome. Many Georgia counties are already taxing timberland at more than one dollar per acre annually. A landowner who pays $1.00 per acre per year for a 30-year crop of timber will pay the local government $30. However, if this cost is compounded annually for the 30-year period at 6 percent, the cost to the farmer is not $30 but $79.06. If an acre of land is taxed at $1.00 an acre for 40 years and compounded at 6 percent the tax costs amount to $154.80 per acre. With pulpwood valued at $7.00 per cord, more than 22 cords of wood per acre must be written off for the payment of ad valorem taxes alone.

Value to Urban as Well as Rural

When a Georgia farmer or other timberland owner sells one dollar's worth of standing timber, $12.10 is added to the community and area through the harvesting, processing and utilization functions. Much of this value shows up in our cities in the form of jobs for urban residents. In Savannah, for instance, there are almost 7,000 people working in forest industries. The payroll is almost $45 million. This wood is not grown on Bay, East Broad, West Broad, Barnard or Broughton. Most of it is grown on some farm in a rural county.

In Rome there are more than 1,700 workers in forest industry jobs. Almost 600,000 cords of wood are needed for the city's workers, but it is not grown in Rome.

In Augusta timber products generate an industry valued at $23 million annually. The wood is supplied by their rural neighbors.

The timber industry is a matter of teamwork between rural and urban forces. It should be quite evident that trees are much more important as an economic resource than as a tax raising source.

Georgia, according to the reports of the U.S. Forest Service, is now growing more timber each year than any state in the country except the State of Washington. Such a record was not easy to attain. It required much time, effort and expense on the part of thousands upon thousands of Georgia landowners. If this timber resource is wisely managed, wisely harvested and wisely taxed, Georgia's annual billion dollar timber industry can grow to a two billion dollar industry.

After Production — Agribusiness, The Important Link

Earlier I mentioned the term agribusiness and made slight reference to its meaning and significance. At this point I will attempt to go a little deeper into this subject. Agribusiness represents a phase of business primarily concerned with taking the raw product or commodity through its route of processing, distribution, marketing, etc. There are forty-three different types of agricultural industries in Georgia representing over five thousand different firms. It is this area that commands the largest work force related to the agricultural segment of our economy. It is also the area which requires great sources of capital. It is truly the dollar multiplier for agricultural products. Producing over 4.4 billion dollars in goods and services each year. Georgia's agribusiness complex accounts for almost two-thirds of the state's economic income.[4]

The backbone of this giant operation is Georgia's more than 1.1 billion dollars worth of farm products. To produce this output farmers spend more than 700 million dollars on farm supplies and other production expenses. This makes them very good customers of industry.

Farm Service and Suppliers

The Georgia farm supply industry benefits tremendously by furnishing the goods and services necessary in today's modern agriculture. In 1967 Georgia farmers spent $252,000,000 for feed. This was their largest single expense. Seed and livestock purchases accounted for another $63,000,000 and fertilizer and lime sales added up to over $82,000,000. Repairs and operation of capital items amounted to $96.5 million. In addition, $73,000,000 was spent on miscellaneous operating supplies. Even more importantly, cash outlays for capital items exceeded $119,000,000, thus providing important sales for many small town trading centers as well as urban distribution outlets.[5] Farm services and supplies are going to play a more important role in the years ahead through custom services, technical know-how, etc.

Agricultural Processing and Marketing

Many functions relating to the grading, processing, packaging, and selling of farm products have gradually moved from the farm to town. Many production operations which the farmer once did for himself, such as fertilizer spreading and crop harvesting and drying, are now being performed by alert agribusiness firms on a custom basis. These services benefit both town and country. They provide employment for the people who live in the cities and towns. They make services available to an individual farmer who could not afford the necessary capital investment requirements needed. There has been quite a shift in this direction in very recent years. We are going to see a strong trend in this direction over the next fifteen-year period.

The processing of agricultural products has for a long time been one of Georgia's greatest needs. We are great producers of raw materials but in many instances we ship them out of state to be processed. Then the finished product is shipped back here. Thanks to many sources and agencies, this trend is being turned around. We are bringing in more industry for processing these products here in our state. Still, we are deficit in this respect. A future challenge and opportunity for the state lies in this area. If I can make one point clear, it is this great need for processing and marketing Georgia's agricultural products. The fifteen-year period just ahead offers many challenges and opportunities for attracting such industry to the state. Our farmers can supply companies' needs with the products and commodities. We must give our attention in this direction.

Imports-Exports

I want to point out here the significant impact which imports and exports will have an Georgia agriculture.

Our favorable agricultural trade balance—the excess of the value of our exports over imports—is one of the bright spots in today's U.S. balance of international payments account. Even after this balance is adjusted for exports for which no dollars were earned, it amounts to hundreds of millions of dollars annually. It helps considerably to offset some of the dollars drained from this country by such outlays as defense expenditures, U.S. investment abroad and tourist spending. We export more agricultural products than any other country—one-fifth of the world's total. These farm exports also make up one-fifth of all U.S. merchandise exports. Recently, agricultural exports set many record highs. From fiscal year 1960 to fiscal year 1967, their value rose over one-half, from 4.5 billion to 6.8 billion, then dropped to 6.3 billion in 1968.[7] During the past two years, one out of every four acres of cropland has been used to produce products for export.

Coming closer to Georgia, we are great exporters of poultry and poultry products, particularly domestically, and quite a bit foreign also. Total agricultural exports from Georgia amounted to $120,000,000 in 1966.

Much has been said about the population explosion, particularly abroad, but little has been said about the production explosion, here or in other countries. The term "explosion" may not be the proper one to use concerning other countries, but we must reckon with the fact that world agricultural production is in a strong comeback trend. Our technical assistance programs are being designed to help countries learn how to produce for themselves more efficiently. Many of our efforts are beginning to pay off in this respect.

Of course, increased production in foreign countries means greater competition in world markets. To compete, we will have to price our products at world market prices.

It appears likely that world feed and fiber requirements for the next decade, and possibly beyond, will be met through the combined effect of more substitutes and increased production abroad. From a domestic standpoint, most agricultural economists feel that the needs here can be met with fewer crop acres than are currently being farmed. These trends will certainly bring pressure to hold farm prices down. To have a profitable agriculture in such a competitive environment will require new and better ways to produce even more efficiently than is currently being done. Prices must be maintained at levels that will enable U.S. farm commodities to compete successfully in world markets. We cannot continue for any length of time on restrictions, protections, etc. In this instance, our national policy and situation necessarily will dictate Georgia's role in this phase in 1985. However, some experts feel that the U.S. will continue to play a greater role in supplying the world with food. If this situation develops, particularly if population outstrips technology and production ability in other countries, U.S. and Georgia farmers will stand in a better position than at present. I feel that we should lean very heavily toward expanding our agricultural markets abroad in the next 15 years for the welfare of our agriculture and economy.

Agribusiness Shopping Centers

I feel it is important to mention here a development which will probably be taking place in Georgia sooner than some people may realize. The concept of agribusiness shopping centers is already being put into effect in some areas of the country. They are somewhat on the idea of shopping centers as we know them now, except their purpose and location are different. These centers necessarily have to be located in areas of high agricultural concentration. These would be agricultural centers with various stores and businesses that furnish all farm related items used in repair and maintenance of equipment, petroleum supplies, feed, seed, and insecticides, herbicides, etc., animal health facilities, financial institutions, possibly livestock markets and various allied agribusinesses.

Future

One of Georgia's opportunities lies in the expansion of existing agribusiness industries, the creation of new firms and the bringing in of operations to further process and market the state's farm and forest products. Georgia ranks first in the production of peanuts, with over a third of the U.S.

acreage of this crop. However, only a portion of the crop is processed in Georgia.

Producing all the beef and pork needed to meet Georgia's present demand would increase farm income from cattle and hogs by approximately $90,000,000 to $100,000,000 annually. This would provide opportunities for the future plant expansion and added industrial payrolls.

As the demand for food, fiber and forest products accelerates in the future, Georgia has an unexcelled opportunity to capitalize on its natural advantages, technological know-how and leadership in the years ahead.

Agricultural Products

Basically, we have made great progress in areas of production of the raw product or commodity. I feel that we will make even greater strides along these lines. Technological innovations through research and development have made much of this possible. But this is only one step, for capital requirements and other issues also have a bearing on success and progress. Still there are great needs for breakthroughs on technology. We need new answers to show how we can further utilize some of our more important crop and forest resources. Continued efforts must be made in the area of peanut research, development and marketing expansion. Other states are doing much in the name of soybeans. But Georgia has or should have the primary responsibility for peanuts, as we are the major producers.

Our forest resources are the greatest in the southeast. Forest products research should be continued and stepped up to more fully utilize the entire tree. We have already made good progress in the areas of yields harvesting and production techniques. But peanuts, soybeans and forest products have great potential in the fields of food, medicine, synthetics and many end products that can be utilized for the benefit of consumers.

Georgia is particularly fortunate to have recently established in Athens the largest of the U.S. Department of Agriculture's Regional Utilization Research Centers which will house 145 different laboratories and a research staff numbering 460 people. This lab will seek new and improved uses of agricultural commodities in the Southeast. Georgia, of course, will be directly affected. This lab can provide a breakthrough for agribusiness and farming in Georgia and throughout the country.

Synthetics and Implications

I think most of us are aware that many products we use in our daily lives have changed considerably in one way or another in recent years. Probably one of the major products "jumping the barrier" was the famous case of margarine vs. butter. We are all familiar with the answer there; margarine has practically taken the market. We are also familiar with the situation with fibers in which man-made synthetics account for over 50 percent of the market, with cotton getting "the bounce." Plastics have found their way into today's market and are filling many needs.

In terms of tonnage, meat substitutes are not a big thing, perhaps less than one percent of the total meat tonnage consumed in this country. But when production of these products on a per acre basis and on a cost basis is considered, the meatless products show quite an economical advantage.

The meat industry is in an excellent position to take advantage of the natural preference for its products. However, there are limits to the price differential that can exist.

There are many other areas in which synthetic products have made inroads into the traditional food products. There does exist a real threat to the traditional concept of production of certain types of food and fiber. If prices of commodities are raised through restricted production, or various types of collective bargaining activities without just compensation through quality or other factors, then synthetic products are bound to capture an increasing share of the traditional food and fiber markets. Loyalty to taste and tradition is quite strong in the food industry. However, if farm products are considerably higher priced than substitutes, these substitutes will eventually capture a great portion of the market.

How does this affect the Georgia product picture by 1985? It is going to be up to technological and practical innovations of using agricultural products to feed and clothe at a reasonable cost to the consumer. Efficiencies of production and utilization will help in providing a low cost "middle step" (processing, marketing, etc.) that could enable the farmer to receive a fair price and the consumer to make the purchase at a reasonable cost. We must remember that, to prepare substitutes, basic raw materials and farm commodities are used. I predict there will be such an advancement in further utilization of agricultural products by 1985 that we will barely recognize them as we do today. We have broken through in a new frontier of fast food items, ready-to-cook or ready-to-eat products, all of which provide services for the housewife in her cooking chores. All of this offers even greater opportunity for expansion in the agribusiness segment.

Irrigation

In recent years, irrigation in Georgia has been fairly negligible and still is relatively small in relation to the total. The exception is where high-cash crops such as tobacco and vegetables are involved. Most of the tobacco in Georgia is being irrigated. Large scale commercial agriculture has thousands of dollars of capital outlay in land, machinery and equipment, with everything hinging on the weather. Our people recognize the fact that a great risk of capital rests on the one factor of water. Additional investments are being made for irrigation units to assure having water to meet moisture needs when rainfall is not adequate to do the job.

Conditions in Georgia in the past couple of years have set the stage for widespread expansion of irrigation. I can foresee by 1985 a very significant increase of irrigation units on commercial farms in the Coastal Plain area of our state.

A leading Georgia agriculturist recently expressed the thought that the agricultural future of Georgia would likely swim or sink on the basis of learning to use the underground water supply in South Georgia. The Coastal Plain region from Augusta, Macon and Columbus southward contains billions of gallons of water. This has been termed as the largest underground water supply in this country. It is a very valuable water resource which I feel is definitely going to have an important effect on the future of agricultural production. I can foresee that the present infancy of irrigation in Georgia will grow manyfold by 1985. Its greatest impact will be in the area of vegetable and forage production.

Agricultural Occupations

Shifts in the labor force and occupational requirements in all fields have changed drastically in recent years. The shift in agricultural occupations and needs have been no exception. These needs are becoming more specific as we move toward more specialized and highly technical work in agriculture and agribusiness. There is a definite need for strong support to assure an adequate supply of properly trained people to meet future needs.

Human Resource Development

The only way our economy and civilization can make advances is through its people. We must be sure that our human resources receive proper training and education to fill the needs of agriculture and industry in the years ahead. In the age of great technology and advancement, there is no place for human manpower that is unskilled or unproductive. If we allow such a condition to exist, chaos could result. Uneducated and untrained people cannot operate businesses or technical equipment or machinery.

Extension

A great responsibility for carrying adequate knowledge and assistance to the people of our state, particularly those in agriculture and agribusiness, rests with the Cooperative Extension Service of the University of Georgia College of Agriculture. I have seen the work conducted by this organization. In my opinion, it is the single most important facet supplying farmers and agribusiness people with the latest know-how needed to push forward in this field today. Georgia is fortunate in having one of the very top Extension Services in the United States. There has been a great need for our people to seek and put to use experimental data coming from our universities. Extension has carried out its task in a magnificant manner. However, the responsibility of this job is going to be greater and more important in the years ahead.

With the many changes taking place in agriculture, it has been necessary for agencies and institutions serving agriculture to reassess their leadership responsibilities. This has been particularly true of an educational organization such as the Cooperative Extension Service. They have a responsibility for providing farm people and others with information on which to make sound decisions for today and for the future. Education is the key to successful agriculture. Recommendations developed by the Extension Service from the best research data available have aided farmers in achieving fields and incomes that just a few years ago were considered impossible. The dollar contribution coming from agriculture in this state, made possible by the Extension Service, would amount to several millions of dollars and would be many times more than the cost involved in conducting the program.

In moving through the years to 1985 we are going to have more sophisticated farmers, larger agribusiness firms and a larger volume of production. All this will necessitate Georgia's having the best available people, in sufficient numbers, on its Extension staff to continue the present record and advance beyond it. The businessman-farmer and agribusiness people are going to demand it. Their needs are going to be great, and they will rely on the latest research and techniques to help them keep pace and stay ahead.

Today's Extension Service continues to recognize its primary obligation to commercial agriculture, but it is working on many new and challenging tasks. It is working with area and community development organizations to increase farm income and make communities more desirable places in which to live. It is working with many agribusiness firms and with industries related to agricultural productivity. It is working with more urban and suburban families, with more low income groups, and it is promoting recreational development as another source of farm income. Education is its mission. Agriculture and agribusiness must rely more heavily on this organization in the years ahead.

The competent Extension staff of county personnel is supported by a staff of highly trained specialists. Being a part of the faculty of the University, Extension draws upon the resources of the University as well as those of the U.S. Department of Agriculture. It is an organization that continually re-evaluates and redesigns its educational program.

The Extension program is carried out in four major areas—agriculture, home economics, youth development and community resource development. The demands of the giant agribusiness sector of our economy, plus its highly commercialized farms, are going to be greater. The next fifteen years are going to place greater demands upon the resources of the Cooperative Extension Service of this state. We will be failing to meet the needs and will slow our growth and development if this organization is not provided with sufficient personnel and funds to continue and expand its program.

Vocational Education in Agriculture

Vocational education in agriculture programs are necessary. We are going to need these programs more than ever in the next decade and beyond. This does not necessarily mean we will need greater numbers in this program. To the contrary, we will likely have fewer, and therefore will need a strong program. The writer has had the opportunity to see both sides of today's rural and urban society, agriculture and industry, education and business. Fewer people are living on farms. The trend in Georgia will probably continue downward slightly, but the needs in agriculturally related industries are growing. These needs will be even greater by 1985. It is a must that we offer every opportunity to boys interested in agriculture. We must present them with proper training as part of their high school program. Most of these boys have an agricultural background. This is a great asset when applied in the agricultural fields and businesses. This background and training can be broadened through proper ag training. Because fewer of these boys will have the opportunity to practice commercial agriculture on the farm does not lessen the need for formal education in this field. All areas of sales, processing and marketing of agricultural products need young men with this training and background.

The challenge to vocational education in agriculture will be to see into the future far enough to make needed changes in curriculum and educational programs in order to present teaching which is not outdated and which will prepare these young men to meet the changes ahead. We must strengthen our vocational education in agriculture in high schools.

Youth Programs

No look into agriculture could possibly be made without special attention to the youth programs which are agriculturally related. I refer to the 4-F and FFA programs in this state. I feel I am adequately qualified to speak concerning these organizations, the need for them and the importance they play both in agriculture and in citizenship and leadership development. Our most important resource is people and the foundation should be started with our young people.

The 4-H program in this state is under the direction and supervision of the Cooperative Extension Service. The Future Farmers of America organization (FFA) is closely related to the program of vocational education in agriculture of the State Board of Education. These youth programs are not related to agricultural youth only. They are made up of rural, rural non-farm, urban and suburban members.

Enough good things cannot be said about the 4-H program. It is undoubtedly one of the finest things going in this country. Georgia should be especially proud, as the birth of 4-H some sixty-four years ago took place in Newton County. Today Georgia is the leader, with nearly 155,000 boys and girls enrolled. This program should become even more urbanized while continuing to meet the needs of rural farm and rural non-farm boys and girls.

Four-H members have an opportunity to enter many varied projects which fit their particular needs. The demands on the 4-H program are going to be considerably greater by 1985. This will be due to the increase in the number of youth eligible for this program. However, eligibility is not the main concern. Need is the greaest concern I can see ahead. I recommend and encourage all effort behind this fine program.

The Future Farmers of America (FFA) has a small enrollment and is designed with similar goals. However, it is designed to meet a different situation in many cases. This organization is national in scope. The Georgia Association of Future Farmers of America stands near the top in membership and quality of program.

FFA enables boys to handle projects in close relationship to their study of vocational education in agriculture in high school. Through FFA they receive practical experience with their various agricultural projects. It also provides leadership experiences which prepare high school boys for any walk of life.

That there are fewer opportunities for young men to practice commercial farming as a full time career by no means reduces the need for FFA or vocational agriculture training in high school. These boys need a practical background and foundation for their careers in agribusiness.

In summary, I believe that our greatest return on investment is coming from our work with youth. I would encourage investing more resources in this area (4-H and FFA). This is one way to assure for the future leaders and citizens with the preparation to meet the needs of farming and agribusiness in the years ahead.

Occupational Opportunities

The great change we have seen in agricultural technology has greatly affected our labor requirements. The need for unskilled share croppers and "sweat and muscle" is not as great as it has been. However, there is still a shortage of working labor on most Georgia farms. Due to the cost-price squeeze and a general low return on many of our farms, farm laborers cannot be offered the wages they can receive in other work.

There is a scarcity of tractor drivers, truck drivers, farm machinery and equipment operators, etc. This type of labor will probably become even more scarce by 1985.

With mechanization and increased technology, we are going to need fewer farmers by 1985 than we have now. Probably only 10 to 15 percent of boys on the farm today will remain there or go back after their college training. But with the great expansion in agribusiness, the occupational opportunities for them in this field are great. In fact, there is already a need for more agricultural graduates than our College of Agriculture at the University of Georgia is now turning out. There is a very bright outlook for agricultural graduates. The demand is strong and I foresee a continuation of this in the years ahead.

I think we can visualize that agriculture has a need also for top scientists who are not necessarily trained with an agricultural career in mind. There are many agribusiness firms and organizations that are hiring microbiologists, pathologists, mathematicians, etc. They also need efficiency experts, industrial engineers and other technicians.

I believe there should be a change in the type of education that we are providing our agricultural students. We probably tend to specialize too much. These students would probably be more flexible and able to adapt to rapid changes in agriculture if they have a broader scientific base. More business courses should be included in the curriculum.

Managers

There is a serious shortage of qualified managers to meet the needs of our owner-operators in Georgia today. We are in great need of a training center to prepare men who are unqualified or do not wish to attend college. However, they could be trained for management positions at the farm level. There is a serious shortage in this area today.

With the high degree of specialized equipment on today's farms, there is a need for people who are trained to operate these tractors, combines and various harvesters.

Business Training

Whatever agricultural education is offered, a high degree of business training should be a part of it. Specifically, I am thinking in terms of accounting, bookkeeping, economics, record keeping, etc. Farmers of the future will have to be good business men. Farming is big business now; it will be bigger in the future. We must not have men trained as good producers of crops and livestock who do not know how to keep or evaluate records or how to read and understand a profit-loss statement. This not only will handicap the farmer in his day-to-day operations, but it will put him at a disadvantage in obtaining the capital he will need. A farmer cannot expect to walk into a bank and request large amounts of credit without being able to present the banker with the information he needs in order to make a knowledgeable and fair decision regarding the request.

Agricultural Industry Training

In addition to the job faced by our educational institutions, there is a growing need for corporations within an industry to train and develop their people to do their particular jobs. The college or university can prepare a person in general terms. However, when this individual goes to the agribusiness field, he must be further trained to meet the needs of that particular company. Farm finance institutions train their men, agricultural equipment manufacturers teach theirs, food processors and marketers further prepare their people, service institutions further develop their men and women. This need will continue.

But there must be more coordination. We need to improve communications between businessmen and educators. Too often businessmen hold conferences but fail to invite educators. Also, educators hold meetings and seminars but do not invite businessmen. In the future we must take positive action to establish communication channels between educators and businessmen. This is presently going on between Extension Service and farmers and agribusiness groups. In fact, Extension is probably the leader in this area.

Agricultural Structure — Methods of Operation

We have seen definite patterns beginning to emerge in size and scale of farming. There seems to be some definite trend toward the future. The writer would like to discuss the type of farming structure which will produce our commodities and products in the years ahead.

The Individual Family Farm

The family farm has been the backbone of America's agriculture. The many changes we have discussed thus far illustrate, of course, that things have not remained the same. This has certainly been true with family farms. Thousands of these farms chose not to change and therefore had to cease their operation. With the technological advancements made in agriculture, all of them could not have existed even if they had chosen to do so. The family farm as we knew it, and even as we know today, will not exist a few decades from now. There will be family farms, however, and these will be businesses in the truest sense. And they will be big businesses.

Family farms that cannot grow to a profitable size and those with poor management will be absorbed into larger units or be turned into part- time or retirement enterprises. Gross annual sales of $10,000 have been used in the past by economists as the dividing line between adequate and inadequate family farms. This $10,000 figure is probably out of date now, or should be anyway, with today's costs and investments. In fact, it may take gross sales of $40,000 or more to yield earnings needed to hold talented farm family members and labor.

It takes superior management to operate a farm. Family members must be wise in the ways of financial planning and capital utilization. It means forsaking the once major goal of full ownership of all resources and relying more on borrowed capital, rented land and other resources. Operators of family farms must gear up for quality control. They must know market requirements and find efficient ways of producing, timing, sorting, assembling and transporting products.

The family farm of tomorrow will be larger than the family farm of today. These farms will become more specialized, even in areas of wide agricultural diversification. I believe that contracting to larger firms or to corporation farms or agribusiness firms will come on the scene very strongly. The family farm will play an important role in our state's agricultural future, as it has in the past. But by 1985 we will not recognize them as we do today.

Corporation Farms

When we speak of corporation farms, what do we mean? Most people interpret corporation farming as a large conglomerate, stockholder owned and operating several thousand acres. This may be one form of corporate farming, but it is not the predominant form.

Kinds of Corporations

The most common type of corporation found in farming is an incorporated type of family farm business. This larger than average family farm usually has evolved either from a family partnership or large individual operation that has reached a certain size in terms of assets. Inheritance taxes and transfer of assets from one generation to another have made conditions desirable for formation of a corporation. Thus many farms that appear to be one man operations to local people may in fact be family corporations.

When we speak of corporation farms, most people think of the outside corporation, publicly owned. Some of these have existed in farming for many years. Others have more recently expanded, going into farm production to compliment their agribusiness interest. Also, some have gone into farming because they see business opportunities in producing farm products.

It is also well to keep in mind that there are a few special income tax advantages to a corporation that are not available to an individual.

It should be pointed out that corporate farms comprise only about one percent of all the commercial farms in the country. Presently these firms operate about seven percent of the land in farms, but they account for a somewhat higher proportion of sales of farm products. Corporations other than the family type represent only about two-tenths percent of all commercial farms and about two percent of gross farm sales.

Production of corporate farms tends to be concentrated to a great extent in beef cattle, feedlots, poultry and fruits and vegetables. Public farm corporations are frequently involved in manufacturing and selling farm inputs or in processing and marketing the commodities they produce. More than two-thirds of all farming corporations are family businesses. And not all corporations are large. Nearly two-fifths had sales of less than $40,000 in 1967.

A recent USDA survey of corporations having agricultural operations in Georgia showed there are a total of 220 farming corporations in the state. Of these, 29 are individual corporations, 146 are family corporations, 38 are other types, and seven were unclassified. These 220 corporation farms accounted for only 0.56 of one percent of all commercial farms in this state. They were somewhat larger in average size, accounting for 2.98 percent of all land in commercial farms in Georgia. These corporate farms average 1,710 acres, compared to 333 acres for all cemmercial farms in this state.

There is an increasing trend to the incorporation of farms in Georgia. Farming is becoming more and more of a business and is being handled as such. These large scale operations are protecting themselves in the event of a business failure. For example, the owners of a corporation may be liable for a smaller personal loss than other owners would be. Their losses are limited to the amount invested by them in the corporation.

Farming by corporation is not a new development in agriculture. USDA indicates that, while the number of corporations has increased in recent years, almost one-half of the corporate farms today were started before 1960.

The structural form of business organization holds an important key to meeting agriculture's capital needs. Farm managers must give more capital consideration to the potential advantages of the corporate organization. Family corporations seem to have many advantages. I am not yet convinced that large conglomerate corporations have merit. Their success or failure in agriculture is yet to be determined. Reports of some operations indicate disappointment in their farming activities. While they stand to reap certain benefits from large scale operation, they also pay a penalty in the lack of personal interest and financial involvement on the part of managers.

Looking Ahead

Specialization is a key word in agriculture's future. However, I believe that the agricultural management revolution is pointing toward different forms of specialization. In the past, specialization tended to move in the direction of individual, highly specialized farms, with only one or two products to market. Such farms tend to be quite vulnerable to wide variations in their limited market. In the future we will probably see more farms which are more diversified in their total structures but highly specialized in each unit of the structure. For example, there will be more farm businesses that will bring together under a single management control several highly specialized divisions. There will be a hog division, a beef division, a corn division, etc. Each division wll be manned by a highly skilled staff of specialists, all under one overall management organization. Businesses organized in this manner retain the advantages of diversification, yet the large volume produced by each division will justify a very high degree of specialization in each.

Now, I am not suggesting that corporate farming should, or necessarily will, become the predominant form of business in American agriculture. But I am suggesting the need for careful, open-minded appraisal of its possible advantages. The ultimate objective must be to find for agriculture the most effective ways of raising and managing capital while maintaining the independence and flexibility that agricultural managers desire and need.

What about the type of farming structure in Georgia by 1985? Individual private family farms will continue to predominate. They will be more highly specialized and businesslike in their operations. They will be large commercial units. Family farms that are incorporated will be similar to, but larger than, the average private family farm. There will be an increase in the family corporations because of the advantages of larger size farm units and the benefits of incorporating. In addition, we will probably see more agribusiness firms expanding their operations to the farm level. All in all, it spells a greater need for human resource development, training and research to meet the needs these changes in structure of farming in Georgia.

Agricultural Technology And Research

Research and technology have probably been more advanced and affected more people than any other single industry. The advance in agriculture has been faster than in any other industry. But agricultural research has benefited everyone. We are the best, fed people on earth—a result of teamwork of research scientists, educators, farmers, processors and manufacturers. Other great contributions concerning human health and welfare have been in vitamins, trace elements, wonder drugs such as penicillin and streptomycin, medicines for heart patients and capsule foods for astronauts in space. Agriculture has teamed with medical science in studies of cancer, goiter, radiation from atomic fallout, tooth decay, arthritis, undulant fever and tuberculosis. Four agricultural scientists have received Nobel Prizes in medicine. Development of recreation areas, insect control, lawn management and ornamental landscaping all stem from agricultural research.

Experiment Stations

Research is the life blood of America's economy, a vital tool of progress. The agricultural experiment stations in Georgia are recognized as among the best in the nation. They have made many contributions to the state. Without the work of college experiment stations the nation's agriculture would be at least 30 years behind where it is today. Georgia's stations, strategically located throughout the state, are finding answers to meet the needs and conditions of our state's climate, soil and people. Their research embraces all crops and livestocks, soils, pest controls, engineering, conservation of natural resources, economics, timber utilization and marketing. They are also working with today's newest sciences, including those dealing with electronics, computers, radiation, solar energy, radioactive isotopes, food for outer space and genetics.

Research work needed by 1985 is going to be even greater. We must give our full support to the continued work of our experiment stations.

Industry Development

With the need so great, we cannot rely entirely upon public research and development through our educational institutions alone. Agribusiness firms and industries that deal, sell and service agriculture must also increase their efforts in this field. Much of our chemicals, seeds, machinery, techniques, etc., have been discovered and developed by private agribusiness industry. This must continue. The entire burden cannot be handled by the experiment stations of our colleges and universities.

Labor, Bargaining, Farm Organization

Farmers have not had an effective farm organization to fulfill their every need. There have been several major farm organizations in this country with varied purposes and, sometimes, considerable friction between them. In addition, diversity of opinion and goals within an organization have caused internal problems. As we are aware, farm numbers have declined to the lowest level in history. Within the next few years we will probably have only about one million farmers attempting to meet the needs of our entire country, plus additional requirements from abroad. So organization is going to become more effective than we have seen in the past. Many individual commodity groups have been effectively organized. Some of these have obtained considerable bargaining power in the market place.

Farm labor will need to become more skilled than ever before. The demand for skilled labor to operate technical equipment is needed in many areas. Agricultural operations must compete with the market to find qualified people. Wage rates in agriculture in 1985 probably will be comparable to those paid similar labor in any other area. Unskilled labor in agriculture will also be in line with unskilled labor in any other industry. Unless present trends change, we will have labor unions in agriculture by 1985.

With the long range expansion and growth potential of our country, it is unlikely that we will have surplus labor. In a growth situation labor is quite mobile and tends to seek its best opportunity and highest wages. Agribusiness opportunities and needs in the labor field are large. The demand will be greater in the future. However, this need primarily will be for skilled or semiskilled labor. And this calls for training facilities to be made available to meet this need.

Agricultural Finance Requirements

Capital requirements for agriculture are growing, primarily because of the size of the farms and the degree of mechanization. As the average farm size continues to increase, so will investment in land, buildings and equipment. The transition of agriculture from sole reliance upon capital generated by the enterprise and bank credit to the introduction of equity capital from outside agriculture could be as dramatic as any development thus far in this century. The challenge for agriculture is to decide how fast to move toward a completely commercial agriculture, one that can produce, process and market at the lowest possible cost.

Capital costs today in agriculture are nearly twice as large as labor costs, on an average. They will continue to grow more rapidly in the future. Thus the efficient acquisition and management of capital is becoming more and more important in the successful farm operation. Capital is highly mobile. Farmers must compete for available new capital with all other businesses, including large corporations such as U.S. Steel and IBM. They must also compete with the federal government and with other farms.

Agricultural credit is now one of the major factors in agriculture and will become more so by 1985. The reason is obvious. With larger operations, large amounts of machinery, large amounts of chemicals, spiraling land costs, etc., capital requirements are increased. As of January 1, 1968, mortgage debt in Georgia (from financial institutions) amounted to $464,002,000. Non-real estate debt (from financial institutions) amounted to $201,300,000. This is a total of $665,005,000. And this does not include the tremendous volume of trade debt or merchant credit from equipment and machinery dealers, fertilizer and ag chemical companies, etc. The total is somewhere in excess of 1.3 billion dollars. Borrowings from these institutional sources (banks, Farmers Home Administration, Production Credit Association, Federal Land Bank, life insurance companies, etc.) is expected to more than double in the next ten years.

The demand for more capital is going to be greater than ever before. It must be available.

Land Usage

The use of land in this country is definitely going to have its effect on farming activities. Our increasing population and spreading suburbia have already made an impact. Population growths, the need for housing, community development and expansion will use more and more of our land.

As land values rise and taxes increase, many farmers can no longer afford to use their land for agricultural purposes. In many instances they are forced to sell and move their operation to other areas.

We have also reached a critical situation in Georgia where much agricultural property is unfairly taxed. Many farm properties are taxed on their marketable base rather than for purpose. Some farmers have been forced to sell because of increasing ad valorem taxes based upon the market price of their property rather than upon its use. This can be a very dangerous situation in the years ahead. I strongly recommend that farm land be taxed according to its use and productivity, not on its market value.

In the future, particularly in some of our richer farm areas, I believe agricultural zoning must come into effect. The most arable, level and highly productive land is being used for commercial and residential purposes, if it happens to be in the right place. I see the need for zoning in order to insure that good farm land is available for future productivity. Marginal, more sloping and non-productive land should be used for housing and business. We must look far enough ahead to preserve our best land. Figures indicate that conversion to commercial or industrial use each year requires some 500,000 acres of farm and ranch land in the United States.

There will be a continuing need for land for recreational purposes. We will have more leisure time and a larger population to use it. Some of our marginal land will be put to recreational uses, thus giving further opportunity to part-time farmers or marginal farm lands.

Agricultural Policy

Everything that has been stated in this paper can be completely changed by legislative policy at the state or national level. Legislative attitude toward domestic problems and also toward foreign trade can have the most significant bearing on the future. Congressional action on restrictions and controls versus freedom and no control would change the agricultural situation entirely. A delicate balance must be maintained between price and income benefits that can be derived from collective bargaining. Otherwise, the potential loss of markets that might result from lower priced food and fiber substitutes is great. Prices must be maintained at levels which will enable U.S. farm commodities to compete successfully in world markets.

The declining political influence of agriculture will make it increasingly difficult to maintain support for government price support programs. Some of these programs may be hindering rather than helping to increase the demand for farm products. At any rate, legislative measures pertaining to agricultural programs and policies are going to determine to a great extent the future of farming and agribusiness. Those in legislative positions must be made aware of the importance of agriculture to our entire future. They must realize that, if this farm machine is allowed to run down, it cannot be cranked up overnight and put into full production again. It is not like turning a faucet on and off. The flow of agricultural products must be steady and orderly. Our future depends on it.

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Department. He was promoted to agricultural officer in 1966 and to assistant vice president in October 1968. Mr. Greer is currently serving on the state 4-H Advisory Board and the state Advisory Board for Vocational Education in Agriculture. He is director of the Georgia Agribusiness Council and committee chairman of the Georgia Plant Food Educational Society. Mr. Greer is a member of the Board of Control, Agribusiness Club of the Atlanta Chamber of Commerce, and vice president of the University of Georgia Agricultural Alumni Society. He was named Most Outstanding Senior in the College of Agriculture at the University in 1962.

TABLE I
PERSONS SUPPLIED BY ONE FARMWORKER*

Year	*Persons supplied in U.S.*	*Persons supplied abroad*	*Total*
1900	5	2	7
1920	7	1	8
1940	11	0	11
1960	22	4	26
1968	38	5	43

*Source: Table compiled from information obtained in *The Farm Index*, July 1969

AGRICULTURE . . . .

1. Georgia Crop Reporting Service, *Georgia Farm Report*, (Aug. 12, 1969).
2. U. S. Department of Agriculture, *The Farm Index*. (ERS, July 1969, Vol. III, No. 7) p. 20.
3. Georgia Crop Reporting Service, *Georgia Agricultural Facts*, (Athens, Ga., 1959-1966), p. 9.
4. *Georgia Progress*, "Agribusiness—Georgia's Fast Growing Giant," (Feb. 1969), p. 22.
5. *Ibid.*
6. Fife, LaVon S., "Maintaining the Competitive Position of Agriculture," (Farm and Industrial Equipment Institute), p. 6.
7. U. S. Department of Agriculture, Our Foreign Agricultural Trade," (ERS, Bulletin No. 312), p. 5

critique:

Agriculture in Georgia

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MODERN agriculture transcends the traditional concept of rural farming. Though still rural and natural resource based, farming is now made up of large-scale, specialized, capital-using and raw-materials-generating business firms. Such farms must respond directly to market forces and engage in an ever increasing volume of trade with non-farm businesses. Similarly non-farm businesses depend on farms for either markets for goods and services or for supplies of raw materials. This inter-locking of business interests produces a rural-urban, agricultural-industrial complex that vitally affects the economy of Georgia and particularly our welfare as consumers. In this context, the complex and dynamic character of agriculture requires a broad conceptual framework as well as substantial analysis and insight in order to assess and project its status. Mr. Greer ably responds to the challenge.

The agribusiness concept which Mr. Greer advocates and adopts for his paper is crucial for a comprehensive view of agriculture. It clearly reveals the fallacy of using farm numbers and farm employment as criteria for assessing the economic status and importance of farming in our economy. Rather the concept focuses on the expanding base for economic growth that technological change, increasing productivity and the resulting structure of farming afford. It is, therefore, appropriate to emphasize the growing economic interchange between farms and non-farm business which Mr. Greer documents and to assert that there is a need for greater understanding of the character of agriculture. This is particularly important for the quantity, form, and content of educational activities to be tailored to agriculture's needs in 1985.

Mr. Greer's perception and enthusiasm lead him through comprehensive coverage of the subject of his paper. To his credit he is unequivocal in stating his opinions. He is excessively generous in praising the research and education establishment and disarms the critic by inserting his conclusions regarding the future throughout the paper along with topical analyses of the curent situation.

Irrespective of the analytical approach chosen, however, one is led inevitably to the same general conclusions about the status and future of agriculture. Its character and structure are changing rapidly. Fewer farms will require more capital, less land and labor and generate a much larger volume of output. Educational levels in agriculture will have to be higher. Managerial and information sciences must attain equivalent importance with the biological and physical sciences in agricultural education for the future.

The primary focus of Mr. Greer's paper is on commercial agriculture with extraordinary consideration of its produce structure. In general his assessment of major changes is consistent with my own expectations for commercial agriculture. I believe the general changes in agriculture's resource requirements, its general role in the economy, and the policy environment in which it must operate are more important for educational consideration than whether forage is harvested by machines or animals. Further emphasis on these points should sharpen the focus of the position paper.

Inclusion of forestry is certainly a logical extension of the scope of the paper. Farming and forestry control four-fifths of our natural resources and together represent the source of space and relatively pure environment to meet the future demands of society for natural resource services. In this sense the position paper is deficient in its assessment of the future product-mix of agriculture and forestry. Changing consumer preferences accompanied by growth in population and incomes suggest that recreational services, expansion of aquaculture and the production of ornamentals or other floricultural products are likely to claim priority over trees and grass in the output for 1985. Even with expansion of the output along these lines, agriculture and forestry can meet future market requirements with less acreage because of increasing productivity. Consequently, the role of agriculture as the conservator and supplier of natural resources for future non-traditional demands of society should be recognized in assessing agriculture's educational and policy requirements. Subsidization of conservation and of education regarding natural resources is compatible with the longer-run nature of society's goals and time perspective.

I agree with Mr. Greer's initial premise that technological change characterized agricultural developments of recent decades and will continue to foster unprecedented adjustments within the agricultural industry. It should be emphasized that technological change is itself a product of research and education that is funded as a matter of public policy. Consequently, concluding the position paper on policy issues appears to be an afterthought when the conditioning influence of policy is a part of the analytical framework for both the present and future status of agriculture.

In agriculture, public policies of three basic types have been influential. One is the developmental type which supports research and education activities that have resulted in development of capital using technology. I would argue for the continuation of these policies but suggest that there are opportunities to modify the substance of the activities so that the results of technological change cause less painful adjustments for rural people and institutions.

The second type of policy is compensatory in nature. These policies attempt to redress the disparities that develop between individuals or groups in our society. Price support payments fall in this category. They affect economic adjustments by attracting larger output and delaying out-migration. New approaches are needed in this type of policy.

The third type of policy is regulatory or restrictive in nature. Sanitation requirements, supply controls, zoning, taxation, etc. are in this category. I anticipate heavier impact of these kinds of policies on agriculture. Mr. Greer ably presents the issue of farm and forest property tax levels. Research and education about the relative effects of such policies on the ability of agriculture in this state to remain competitive will have to be strengthened.

The relative influence of these types of policies between now and 1985 is unknown. Public policy as a function of the political process can be modified through an informed citizenry. Herein lies an increasingly important role of education.

Effects of Farm Technological Change on Rural People And Institutions

In earlier times agriculture employed our natural resources, a large proportion of the labor force, limited amounts of capital and generated a surplus as its contribution to economic progress. It sustained the local community and fostered its growth. The commercial character of agriculture today is a product of market forces and public policies consistent with the goal of economic development. This goal and those forces are too powerful to roll back. They force us to larger farms, to substitute capital for labor (and land) and toward a smaller farm population. Rural communities and institutions decline if farming is their sole economic base and no compensatory increase in other types of employment is developed.

Growth in farm output and lower real costs of food are implicit elements of national policy which keeps supply of farm products so abundant that farm prices remain relatively low. Unfortunately, neither public policy nor research and education has devoted enough resources to provide the knowledge required to make the institutional and human adjustments dictated by changes in the structure and resource mix of agriculture. The present status of agriculture begs for increased emphasis in education on the socio-economic implications of technology.

In 1964 less than one-fourth of the farms in Georgia—20,473—accounted for 82 percent of the products sold. The remaining three-fourths of the farms represent human and natural resources that cannot escape the power of technological and economic forces in rural areas. The majority of these resources must either move into larger farm operations or out of farming. Fortunately, however, I believe that agriculture in Georgia has already experienced the most drastic and painful structural adjustments, particularly in terms of human resources. Sharecropping and hand labor have been virtually eliminated. The number of farms in the economic classes capable of adjusting in size and output to remain competitive has increased. In addition, the number of full time farm workers on Georgia farms has increased each census period since 1954. Because of the high average age of persons in the farm work force, the majority of them will need to be replaced by 1985. These factors point to the likelihood that more than 10-15 percent of the farm youth could find employment opportunities in agriculture.

Farm Population and Rural Institutions More Stable by 1985

The emerging structure of agriculture in Georgia promises much more moderate reductions in farm numbers, farm employment and farm population by 1985 than those that have occurred since 1955. Consequently, the role of farming as a supplier of human resources to other sectors of the economy will be diminished. In fact, farming may become a strong competitor for the work force in rural communities. The farm work force I envision, however, will be at least semi-skilled operatives. Part of the challenge we face is that of according farm employment the higher status that is consistent with its developing character.

This view does not alter the basic premises or conclusions of the position paper with respect to the accelerated pace of technological change, unprecedented increases in capital requirements and growth in farm output with attendant increases in the potential for agribusiness development. It does suggest caution in projecting substantial reductions in the clientele for educational programs at all levels in rural counties.

There has emerged a family income dualism in communities where nonfarm opportunities are available within commuting distances. This dualism involves a combination of extensive type farming (grass and trees for example) and non-farm employment by either the farm operator or members of his family. The positive effects of this dualism are reflected in higher family incomes, stable or growing rural communities and institutions. Fewer rural counties are now experiencing net declines in total population.

Implications for Education

Relating education to agriculture's future needs will require modifications so that it parallels the agribusiness character of the industry. Technical education will be essential for a skilled farm work force. College degrees, already becoming common among farm operators, will be more generally essential for success. In this respect I support the emphases on research and education outlined in the position paper. In addition, I believe that established youth and adult education programs should include more "know-why" content along with the "know-how." Education for effective citizenship and leadership in agriculture must include social sciences and business curricula. With appropriate emphases, education can contribute not only to agricultural efficiency but also to less painful and more orderly interchange of resources and products between agriculture and other sectors of Georgia's economy, as economic growth takes place. The educational challenges of agriculture will be undiminished in 1985.

critique:

Agriculture in Georgia

By
Thomas T. Irvin,
Commissioner
of Agriculture,
Georgia
Department of
Agriculture

AS THE AUTHOR of this position paper indicates, agriculture is indeed a broad field with many facets embracing a wide range of disciplines. Because of the complexity of our social and economic structure, there is no such thing as a portion of our social or economic framework living and being apart from the rest of society. There is a thread of interdependency woven throughout our socio-economic existence.

Because of this interdependency and accepting the concept that a sound and aggressive agriculture is basic to all other social and economic growth, I felt that substantial changes in agriculture must and will occur.

I am in general agreement with the author of the position paper as to the identification of agriculture, including agri-business and forestry. He has adequately and factually described the current agricultural complex in terms of product productivity and economic contributions in the business area. I see no need to reflect further on these particulars.

The thrust of this critique will be to point out and further emphasize some topics which, in my judgment, will be highly significant to further growth and orderly development of agriculture in Georgia.

The two keys which will unlock the treasures of the future for all people are EDUCATION and RESEARCH.

Education

Agricultural education must not be limited to those actually engaged in agri-business or farming. The entire student body at the high school level should be exposed to the history and impact of American agriculture. These courses should be a part of the academic curriculum and not restricted to vocational agricultural and home economics classes. This need is outstandingly significant in view of the probability that approximately 98 percent of the high school population in 1985 will have no farm background or experience. It seems to me that some knowledge and understanding of agriculture, basic as it is to our economy and survival, must be taught all students along with math, art, literature, history, and the sciences.

Leaders in education must move boldly forward in new fields of training for men in the field of agri-business and for the on-the-farm worker. Leaders with imagination must look to the future and delineate the problems and opportunities of the next decade. When this is done, a new curriculum will result which will allow for creative thinking and learning by the teacher and the student. Surely agriculture would fail to reach its potential unless this is done. But, more importantly, the living standards of all people in this country would slowly sink.

I do not propose to offer here a blueprint for agricultural education, but I do want to offer some valid points which I think are of importance to the future.

District or regional training programs should be established which would offer specialized instruction in every phase of agribusiness, farming, and forestry. These programs should require full-time attendance and extend over a two to three month period. The curriculum should be broader than just how to do a job, that is, driving a truck or tractor. It should involve all of the ramifications of why, what, how, supportive maintenance, safety, etc. Beyond this, and of equal importance, the faculty and curriculum must be oriented to instill in the student an understanding of his relationship to those about him and a desire to achieve. Adequate motivation and proper attitudes would be key words for the faculty and the school—most people already know how to do a better job than they are doing.

This school should be initially restricted to students who already have a job and where their employers are willing to grant them academic leave. Such leave could carry reduced pay by the employer with a contract that the student would return to his former employment upon completion of the course. Counseling with operators and management of agribusiness would be an integral part of such a program.

Research

It has been said that an unwritten goal of agriculture has been to reduce the hours of physical labor required to produce a bale of cotton, a bushel of corn, a ton of peanuts, a gallon of milk.

This goal has been accomplished.

But to continue to progress down the road toward eliminating or still further reducing physical labor in farm commodity production will take more emphasis on research. We have been using up our basic research knowledge at an alarming rate while concentrating on applied or short-term problems in agriculture. More emphasis on biological research—the fuller understanding of the life processes—will be needed to achieve even greater productivity and efficiency in agriculture.

If we fail to expand our basic research programs in agriculture, the eventual result could be a shortage of information vital to applied research as it affects the farmer and the crops, livestock, and timber products which he markets.

One further point should be noted in relation to the potential in the future for feed grains and certain forage crops in Georgia. The Coastal Plains area of the state has one of the greatest known underground water reservoirs, the artesian strata, now largely untapped. Georgia's huge poultry industry offers a great market for feed grains, which now largely come from the Midwest. As new varieties are developed in the future and as yields per acre continue to climb from increased production knowhow, it appears possible that Georgia could experience a great surge in feed grain production. Since the state is deficient in the production of both cattle and hogs, this increase in grain and forage production could lead to increased emphasis on both of these types of farm enterprises. In addition, pasture acreages of improved grasses such as Coastal Bermuda should continue to increase providing additional quantities of forages available for use as silag and hay crops, in addition to grazing.

This development could result in Georgia becoming a much more important state in the production of beef and pork, just as it has already become in broilers and eggs, ranking first nationally in broiler production and second in eggs.

In summary, substantial changes in present educational patterns affecting agriculture will be necessary in the years ahead to keep pace with the dynamic changes which will occur in the state's agriculture during the next 15 years.

AUTOMATION presents a challenge to all of us!

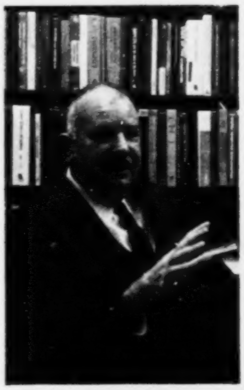
In the 19th century the poet Robert Burns penned the following lines.

But, Mousie, thou art no thy lane
In proving foresight may be vain:
The best laid schemes o' mice an' men
  Gang aft agley . . .

Still thou art blest, compar'd wi' me!
The present only touchest thee:
But, Och! I backward cast my e'e
  On prospects drear!
An' forward, tho' I canna see,
  I guess an' fear!

Automation in Georgia

By Ellis L. Scott, Ph.D.



Professor of Business Administration, Graduate School for Business Administration, University of Georgia, and Director of the Center for Automation for Society

As we approach the advent of the 21st century, the trepidations about planning and forecasting expressed by the poet in the 1800's still command our attention. But plan we must—if we are to fulfill our responsibilities for the continuity and growth of our society. Therefore, we strive to improve our capabilities to lay schemes and anticipate the consequences of our decisions. In this spirit this paper is submitted.

To begin this analysis we shall postulate several fundamental propositions concerning automation.

- *Automation is a technology.* For the purposes of this report it is important to distinguish between science and technology. Science is one form of knowledge, acquired in a manner we refer to as the scientific method. Technology, on the other hand, is *knowledge applied,* presumably to serve some human purpose or need. This distinction is relevant if we are to avoid certain confusion in discussing the educational and other social implications of automation as a technology.

Vice-Admiral Hyman G. Rickover in a recent speech at the University of Georgia made these comments.

> Not everything hailed as progress contributes to happiness. It troubles me that

> we are so easily pressured by purveyors of technology into permitting so-called "progress" to alter our lives, without attempting to control it—as if technology were an irrepressible force of nature to which we must meekly submit.

The difficulty, Admiral Rickover suggests, may lie in a confusion between science and technology.

> Science has to do with discovering the true facts and relationships of observable phenomena in nature . . . technology is tools, techniques, procedures . . . Science, being pure *thought*, harms no one . . . but technology is action and often potentially dangerous.

In this distinction, so aptly phrased by Admiral Rickover, lies the challenge of automation, the way to better understand and apply the wealth of technology that is available and the necessity to apply it in the interest of society as a whole; the need to make the educational system more flexible in meeting a technological society's requirements; the challenge to plan in depth for the impact that increasing automation will have on business organization and the economic structure; the challenge to be imaginative in visualizing social changes that lie ahead and creating new social organizations and practices in harmony with these changes.

- *Our concern with technology must consider elements of technology other than hardware.* There is a tendency to think of automation and other technologies primarily in terms of machinery. The sophistication reflected in the design of computers and process control machinery tends to reinforce this preoccupation with hardware. This preoccupation ignores much that is critical to the understanding of the technology and its social implications. The non-hardware elements of a technology include personnel, organization structure, policies and procedures, training plans, and the like. In computer-based technology this software includes the computer programs designed and written to enable the system to function. The lack of concern with software elements and failure to consider carefully their implications for total performance have constituted one of the major problems in the application of new technologies.

One response to this need to see the larger requirements in the effective application of a technology has been the development of a methodology called system engineering. The systems approach stresses functional interrelationships of all component elements, including non-hardware elements; the manner whereby the totality functions to achieve explicit objectives; the nature of input-output relationships, and the whole system's relationships to the environment in which the system is embedded. It is therefore unwise to think of automation simply as a technology in which man is engineered out of the system and, thus, need not be considered as a critical element in the system. In automation, regardless of the changing role of man or his remoteness from operations, the concept of man-machine relationships remains a significant aspect of the technology.

- *Many technologies exist side by side.* Many technologies to serve diverse human purposes exist in this world. Some of these technologies are not commonly recognized as such. We are only now beginning to think in terms of educational, social, and economic technologies. The explicit recognition of these technologies will be necessary for effective control of man's environment. We tend also to think only of advanced science-based technologies. But these are only part of the story. Not so many years ago our own agricultural technology was largely tradition-based rather than resting on a substructure of scientific knowledge. This non-science based agricultural technology is still common throughout the world. One of the major issues today is the reconciliation of these various technologies. Automation now challenges older methods!

Automation takes many forms and has many definitions. It includes industrial process control, materials handling, services automation, paperwork automation, and information-decision systems. Yet, our knowledge of how to successfully apply these varieties of automation may be hampered by prescientific conceptions of their essence and utility. There are strong emotional connotations associated with such terms as *robot* and *mechanical brain*. We lack relevant facts about automation. Our planning is inadequate, and new means for social control may be required. One result of the inadequacy of the planning is the gap between the existence of the technology and its application. This lag seems to be characteristic of any new technology, and its effects may include the loss of available benefits.

The world has been thrilled by man's landing on the moon. Yet, rocket technology lay fallow for many years. The late Dr. Willy Ley pointed out that all essential components for the solid-fuel, V-2 type rocket existed in 1910, although the V-2 did not fly until 1944. Dr. Ley said that a somewhat simplified V-2 rocket could have been built in 1910 if somebody had the right idea to put existing ingredients into the right order. The conclusion drawn by Dr. Ley was:

> We now know at least 100 times as much as the engineers of the year 1910; we probably have all kinds of ingredients lying around — we now need the man who has the idea of putting these ingredients together in such a way that they make a superior spacecraft. Maybe the ingredients are in existence right now. The idea is not!

At the sametime that the body of knowledge possessed by man has increased many fold—the foreseeable future has shrunk. Dr. Ley said that two decades ago the foreseeable future was 15 or 20 years; today it is five or six. One reason is that what happens in automation, for example, is not simply a function of the state-of-the-art but depends on social, economic, and educational phenomena and the "fall-out" from other technologies. The transistor developed in the electronics field proved invaluable to space scientists.

Automation must deal not only with questions of technical feasibility, but with questions of economics and of politics and with psychological considerations. Applications to large systems are limited by the present state of systems theory. Applications are limited by costs and requirements to justify new investments. In many cases application is limited by a lack of understanding of the process that is to be controlled or automated. It is limited by the rate of social change—acceptance of ideas, acceptance of different ways of doing things.

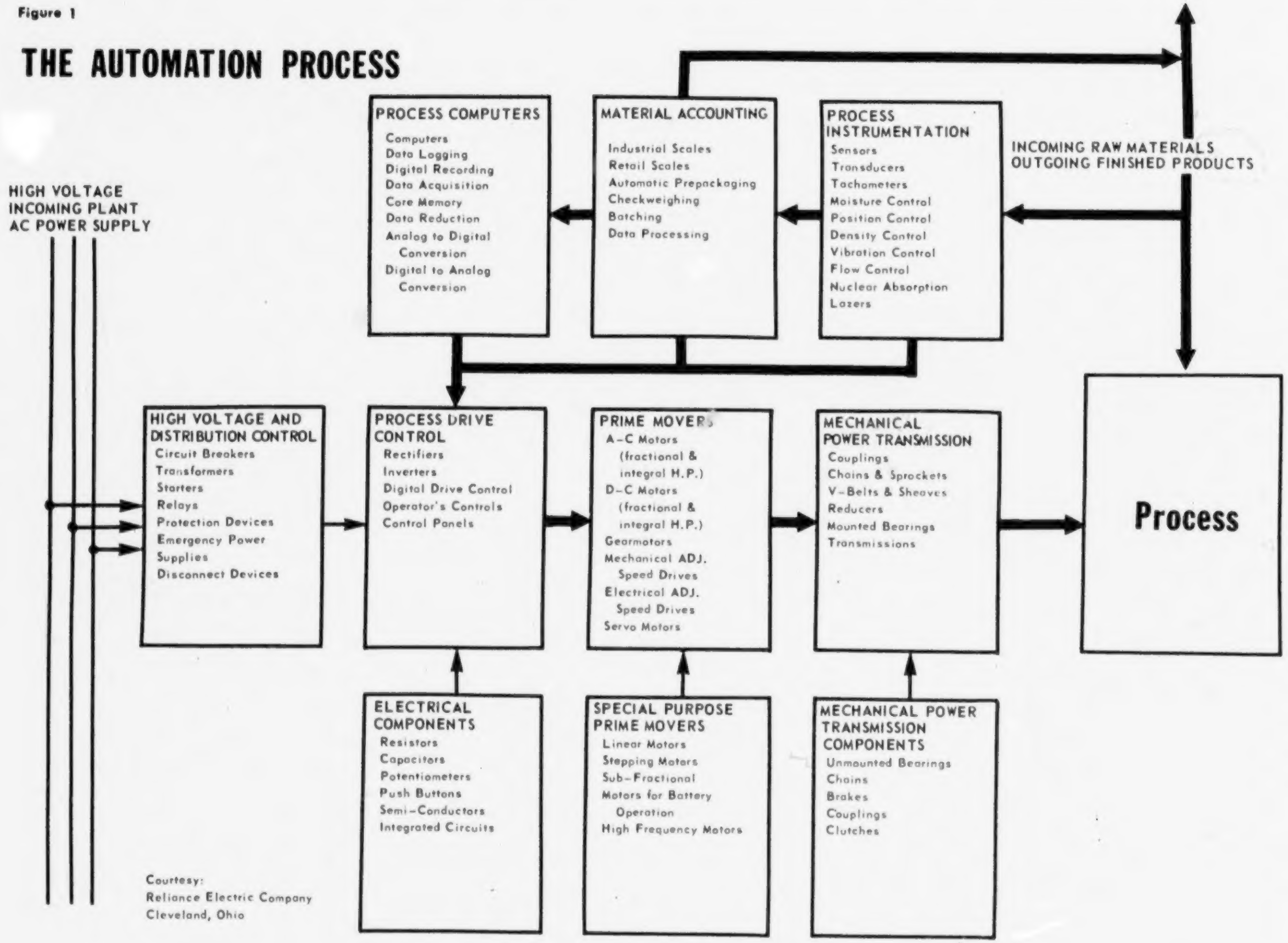
- *New technology raises many issues, and it may take other technologies to resolve them.* With the emergence and development of new technologies, problems and issues arise, many of them unanticipated, which stimulate the development of other technologies to cope with these problems and issues. Dr. Frederick L. Bates has stated:

> Technology consists of a system of strategies and tactics for producing desired end products through the use of human action augmented by tools and machines. Given this definition, it is apparent that all areas of life involve technologies. There are, therefore, educational technologies, religious technologies, recreational technologies, technologies for family life as well as those normally thought of in the area of economic production, consumption and distribution. Automation must be viewed as part of this larger system of technology. Therefore, automation as a process must be viewed as being imbedded in a larger process of technological change. . . . The automation process, which consists in the changeover in technology from the use of man-operated to self-operated or computer machine systems is a part of the larger social change process which has been going on in human society since its very inception. This social change process is a natural phenomenon which results from the operation of systems of interrelated causes or influences.

The following sections describe the nature of automation, survey its current and projected status, and attempt to draw out some of the implications of automation for society—with special reference to education.

Figure 1

THE AUTOMATION PROCESS


HIGH VOLTAGE
INCOMING PLANT
AC POWER SUPPLY
PROCESS COMPUTERS
Computers
Data Logging
Digital Recording
Data Acquisition
Core Memory
Data Reduction
Analog to Digital Conversion
Digital to Analog Conversion
MATERIAL ACCOUNTING
Industrial Scales
Retail Scales
Automatic Prepackaging
Checkweighing
Batching
Data Processing
PROCESS INSTRUMENTATION
Sensors
Transducers
Tachometers
Moisture Control
Position Control
Density Control
Vibration Control
Flow Control
Nuclear Absorption
Lazers
INCOMING RAW MATERIALS
OUTGOING FINISHED PRODUCTS
HIGH VOLTAGE AND DISTRIBUTION CONTROL
Circuit Breakers
Transformers
Starters
Relays
Protection Devices
Emergency Power Supplies
Disconnect Devices
PROCESS DRIVE CONTROL
Rectifiers
Inverters
Digital Drive Control
Operator's Controls
Control Panels
PRIME MOVERS
A-C Motors (fractional & integral H.P.)
D-C Motors (fractional & integral H.P.)
Gearmotors
Mechanical ADJ. Speed Drives
Electrical ADJ. Speed Drives
Servo Motors
MECHANICAL POWER TRANSMISSION
Couplings
Chains & Sprockets
V-Belts & Sheaves
Reducers
Mounted Bearings
Transmissions
Process
ELECTRICAL COMPONENTS
Resistors
Capacitors
Potentiometers
Push Buttons
Semi-Conductors
Integrated Circuits
SPECIAL PURPOSE PRIME MOVERS
Linear Motors
Stepping Motors
Sub-Fractional
Motors for Battery Operation
High Frequency Motors
MECHANICAL POWER TRANSMISSION COMPONENTS
Unmounted Bearings
Chains
Brakes
Couplings
Clutches

Courtesy:
Reliance Electric Company
Cleveland, Ohio

What Is Automation?

"The new thing which automation brings is that for some interval machines can function without direct human control."

—Theodore A. Smith, RCA

There are many forms of automation and the term has many definitions. As with many areas of inquiry these days, the study of automation requires a high tolerance for ambiguity. Although the antecedents of automation go back many centuries and as with nearly everything else it can be traced to biblical times, the term as now conceptualized is relatively new. In 1947 the Ford Motor Company announced the organization of an "Automation" department in the manufacturing engineering division. D. S. Harder, than vice president for manufacturing, had coined the term to describe the linking of successive machines by automatic work transfer and positioning devices. This process has since become known as Detroit-type automation.

George Terborgh of the Machinery and Allied Products Institute says that the term caught on and the result was a confusion of tongues rivaling the Tower of Babel. In his book, *The Automation Hysteria*, Terbough reports: "Searching for the meaning of automation is like nailing jelly to a wall."

A good source of definitions is Bright's compilation from testimony at the 1955 Congressional hearings.

> In a general way, the term automation represents technological change which is surely nothing new.
>
> Automation is not essentially different from the process of improving methods of production which has been going on throughout human history.
>
> Automation may be defined as relegation to a machine of operations previously performed manually.
>
> Automation is not a revolutionary technique but a continuation of our progress in mechanization.
>
> We define automation as the automatic handling of parts between progressive production processes.
>
> For practical purposes . . . we define automation as continuous automatic production, largely in the sense of linking together already highly mechanized individual operations. It is a way of work based on the concept of continuous flow, rather than processing by intermittant batches of work.
>
> We are beginning to look at our industrial processes as complete, integrated systems from the introduction of the raw material until the completion of the final product. . . . One way of defining automation is to say that it is a means of organizing or controlling production processes.
>
> Automation can be said to be any continuous and integrated operation of a rationalized production system which uses electronic or other equipment to regulate and coordinate the quality and quantity of production.
>
> When I speak of automation I am referring to the use of mechanical and electronic devices to regulate and control the operation of machines. It represents something radically different from the mere extension of mechanization. It is a new technology, arising from electronics and electrical engineering.
>
> The essential feature of this new step in mechanization (automation) is the application of electronics to the control of mechanical and chemical processes. The mechanical brain or electronic computer is the central feature of this development.

One could elaborate on the above list, but resolution of the definition problem is not one of the objectives of this paper. Nevertheless, key terms stand out in the definitions examined, *improved methods, mechanization of manual operations, progressive process, continuous flow, integrated systems, organization and control, rationalized production, regulation* and *coordination., electronics, mechanical and electronic brains.*

John Diebold, whose name is also associated with the coinage of the term *automation*, has made this observation.

> As it has developed in the United States, automation takes many forms and can be classified in several ways. One such classification is as follows
>
> *Computers* automatic handling of information by use of electronic systems
>
> *"Detroit" Automation* integration of machines linking together, by means of automatic transfer devices of the machines of production
>
> *Process Control Systems* computer and integrated control systems for operation of process (oil, chemical, atomic) plants
>
> *Numerical Control* the use of tape and

other automatic control devices to direct operation of machines and machine systems.

Why do firms automate? Diebold states a number of reasons.

> Our experience has shown that the motivations for automating have been very diverse. Apart from the fact many considered it a band wagon on which they should climb, the overriding factors dictating a decision to automate usually were, and still are, (1) to cut production costs; (2) to reduce labor requirements; (3) to do existing things faster; (4) to do things not possible before; (5) to increase productivity; (6) to aid in decision-making by providing fuller and faster information.

One representation of the automation process is shown in Figure 1, at the end of this section. The diagram exposes the contents of the automation "black box" as conceived by a firm specialiing in automation.

It is informative also to take note of specific techniques and methods now employed in automation applications. C. English Evanson, President of TAB Engineers in Chicago, has identified a representative number of these which have cropped up in the past 20 years or so.

- The magnetic wire of World War II has become today's *magnetic tape* with many applications.
- Both analog and digital computers have been applied extensively to the control of processes and machinery. Sometimes these are linked together as hybrids.
- The era of solid state circuitry is fully with us, so that computers can be larger in function and smaller in size with little problem of heat.
- Lasers are used for machining, to balance rotors, measure distances, and accurately guide tunneling machines underground.
- Computerized microwave and modulated light surveying equipment had begun to replace the standard transit on our highway program, only to be replaced by the Laser Transit.
- The science of holography has been founded. Now we have three dimensional printing, and three-dimensional television may be next.
- Small and versatile television cameras have extensive applications in combination with remote controls. Television is an indispensable part of control systems in many plants.
- Proximity switches have markedly improved in speed of response and accuracy. Also added is the capacitive switch, the inducive switch and the infrared detector. These can detect the presence or position of an object from .001 inch to several inches away.
- Fluidics has circumvented some of the problems of electronic circuits. Fluidics now allows equivalent logic circuits to be placed in magnetic and electric fields or in explosive areas impractical for electronic circuitry.
- Feedback circuits are much more sophisticated, producing a running record of the system's performance.
- Raw materials have changed, an explosion of plastics with manifold properties. These materials have been a boon to automation designers.
- Papers today have qualities undreamed of a generation ago. The same can be said for *glass* and *ceramics*. In the metals field new alloys, new combinations, new shapes, powdered metals, are now at the designer's command.
- Lubricants are made for every temperature, condition, and expected life of equipment.
- Plug-in components and subassemblies have enhanced equipment maintenance.
- Freeing of fresh and cooked foods has founded a whole new industry. Another boost will come with the introduction of cryogenics to industry. Conventional freezing is too slow for the fishing industry and pulpy food items such as tomatoes. Faster cryogenic freezing opens up new applications.
- Micro-wave energy is an outgrowth of radar of World War II. It will have an impact on industry where quick drying or heating is required.
- In the metals field, electrical discharge machining, electric chemical

machining and electron beam machining have emerged. Laser welding of small parts, ultrasonic cleaning, welding, and inspection and Electro-magnetic forming are new processes.

- In the machine shop the greatest change has been N C, numerical control of machining.
- Transport means, available 20 years ago, have been integrated with equipment as a system these days. This integration with equipment, the increase in standard units, and the development of controlled conveying systems are the most marked advancements in the materials handling field.
- Materials handling outside the plant includes new uses for pipelines, such as slurries, to move granular materials. Overland conveyors can move excavated material, construction material, coal, and fill over long distances.
- Vibratory bowls have been developed for storage, cleaning, and feeding units.
- Magnetic belts have been developed to separate ferrous items, to convey and to also carry magnetic instructions along with the loads.
- Floor carts have become radio controlled or magnetically controlled by lines on the floor.
- A whole new line of loaders, stockers, and line storage equipment has been developed. Air glide has been developed to allow a man to move about a pallet load of a ton easily.

The above developments noted by Evanson represent some of the items now available to the automation designer. His field has become even more stimulating and exciting.

Evanson has been led to conclude:

> The staggering impact of these examples is really how short the lead-time has become for a theory to emerge from a laboratory and be installed in practical use. Before the advent of automation, it usually required about twenty years for a theory to be put to productive work in industry. This length of time is fast decreasing to about two years. The scary implication of this is that if one has a three year program under development it could be partly or completely obsolete by the time the project is installed. However, a more realistic reaction is to recognize that change is with us and to constantly maintain review points both during the project and also after it is installed.

There may be other scary implications of Evanson's statement about the reduced lead-time in technology. What does it mean in terms of the discrepancy between the high-technology and low technology nations of the world? What will be the effect of this change on our social institutions?

Bates has reminded us of the elongation of technology.

> At this point in time, technology could be described as extremely elongated. By elongated, we mean that at one extreme are technologies based on the operation of the human organism as a thinking and acting mechanism unaided at times by even simple tools. At the other extreme, we have in existence systems of production which combine sophisticated computers with intricate systems of machines. Even in the most advanced society, this statement holds true. When we view the large picture of the entire world of man, technology becomes even more elongated stretching from the most primitive to the most modern. . . . In most of the world, family life, religion, education, agricultural production, government, and recreation, and for the most part, the production of goods and services are carried on with a pre-mechanized or pre-machine technology. We must recognize, therefore, that by viewing man from a world perspective there exist side by side the most primitive and the most sophisticated technological schemes.
>
> One of the questions that needs to be answered is whether there shall ever be a stage reached at which this elongation of technology will be reduced, and most or all of human productive activities will be carried on through the utilization of self-operated machinery.

Current Status of Automation

Considering the current state-of-the-art, one is amazed that our society is not more automated than it is. Experts seem to agree that technology can automate any manufacturing process an industrialist desires. The capabilities in agriculture and agri-business, forestry, and transportation are likewise impressive. The capabilities of computer hardware have always kept well ahead of our abilities to exploit them. But, then, automation as an explicit concept is only about two decades old; and, until recently, this was about par for the introduction of a new technology. The gap between the availability of a technology and its application seems to be narrowing. Indeed, the gap itself is becoming an object of intensive study. The lag appears to be related to factors such as the resistance to change by both labor and management, failure to assemble components and equipment into systems, and cost considerations.

On the other hand, as one looks around in Georgia one cannot help but be impressed by the extent to which automation is already applied. Every type of enterprise has been affected to a significant degree. Furthermore, some of the applications in Georgia can be ranked among the most sophisticated to be found anywhere.

In the textile industry Jefferson Mills at Jefferson, Ga., is an outstanding example. This firm's president, Morris Bryan, Jr., has been personally responsible for this outstanding example of automation in Georgia. Jefferson Mills did more than simply install new machines—the firm rationalized the complete production process, eliminating or consolidating many of the steps involved. The process of innovation and improvement is only part of the story. The design extends to the physical plant, organization structure, and management practices. From a designer's point of view it may be described as a classic systems effort of great elegance and beauty.

Jefferson Mills' Southworth Division is a 5 million dollar plant which has been called the world's most modern textile plant. The production process in the push-button mill reduces the steps in production from 17 to six, according to published reports. Six new types of machines were developed for the plant. According to *Business Week*, the Georgia Mill uses 50 employees in an operation usually requiring 150 to 200 workers.

In agriculture and agri-business the applications have been manifold, reflecting a dramatic reduction in the production labor force but also stimulating much new industry in Georgia. The development of improved plant varieties has stimulated increased efforts in mechanization and automation. Changes in cultivation practices and harvesting have also made feasible increased mechanization. One automated device for grading and sorting tomatoes operates on a hydraulic principle utilizing the differences in specific-gravity of ripe, green and intermediate degrees of maturity of this vegetable. Automated feeding of chickens and livestock has made possible large-scale enterprises in Georgia. Almost everyone in the state is aware of these developments. In short, the adaptation of mechanization and automation to agricultral practices has been phenomenal. Everything seems to be done for the convenience of the machine. Those who remember how things were done a few years ago may have very few recollections of adaptations made for the convenience of man.

Forestry and forest product industries represent another major area for automation applications in Georgia. Telfair Timber Company can be cited as an example in pulpwood. Telfair built a slasher in 1965 for its yard in Milan. A tree is cut and hauled in three lengths to the slasher. The slasher cuts the trees into 5.3 inch lengths for loading on rail cars. Two slashers do the work of eight men in the woods. In 1968 four crews produced the same amount of wood that 10 crews did in 1962. Forestry operations, like agriculture, are becoming highly rationalized, scientific operations so that automation systems can be effectively employed.

Brick making is another example. Merry Brothers Brick and Tile Company in Augusta is engaged in a multi-million dollar expansion of its brick producing facilities. A new fully-automated unit is said to have a capacity of 200,000 bricks a day.

Printing and publishing is another Georgia industry in which automation has made significant inroads. The *Athens Banner-Herald* is produced through one of the nation's most technologically-advanced newspaper production operations. When a *Banner-Herald* reporter sits down at the typewriter to hunt-and-peck, the typewriter produces a punched paper tape. This tape is input into the computer which justifies the lines, hyphenates the words at the end of a line and outputs another tape. This second tape is fed into a photon machine which produces columns of type on photographic paper at very high speeds. These are passed into page formats, made into plates, and run off on high-speed offset presses. Not a linotype machine or stick of type in the place! By the time this article is published new applications will no doubt be planned if not already implemented.

The banking and financial community has a major stake in automation, a fact of which most bankers seem aware. The credit card is fast moving us into the checklist society, some say. Tellers in Atlanta banks talk to computers with keyboard devices. And the computers talk back in spoken English, providing information on customer accounts! Customers at Peabody and Co., to cite another example, can punch a few buttons and instantly obtain about 12 items of information on any stock listed on the New York Stock Exchange. The recent paperwork fiasco on Wall Street is also evidence of the push toward automation in the world of finance.

The communications industry is also becoming highly automated. Southern Bell shares in the Bell System's huge computerized communication's network. This network not only provides switching capabilities but can accommodate message queues, so that if the line is busy the message can be stored and transmitted later.

Transportation is another major area where automation is having its impact. Delta Air Lines' Deltamatic system for airline reservations is representative of these applications. The computerized information system of the Southern Railway System, located in Atlanta, has made the operation of that complex of railroads a model for the nation. Detailed and updated information on all shipments and cars is available at all times. Southern's customers, the shippers, have direct access to the system and can interrogate it about the status of their shipments. One of Southern's most intriguing applications is the system of sensing devices which detect hot boxes on rail cars. When a train with a hot box passes one of these devices a message is generated and transmitted through the system so that it is received very soon by the engineer of the train by telephone. The message tells him that he has a hot box on his train, third car back, rear wheel, right-hand side! For the highway traveler, Holidex and similar computerized reservation systems assure him of overnight accommodations.

The paper making process is highly automated today with extremely sensitive controls over a host of conditions in the manufacturing process. Petroleum refining, pipeline transportation is frequently regarded as one of the most highly automated industries. Lockheed's *Interloc* management information system does many things, including the automatic preparation of manuals which accompany Lockheed products shipped to customers.

Public systems, such as police and law enforcement agencies, have information systems in operation or under development in Georgia. There are also interesting new applications in the medical and public health fields. Patient's data in hospitals may be acquired from automated sensing systems and processed through computers and displayed to doctors, nurses, and other hospital personnel.

One of the prominent automation success stories in Georgia is that of the Southwire Company at Carrollton and its president, Roy Richards. According to the *New York Times*, Mr. Richards has built Southwire into the largest private producer of aluminum and copper rod, wire, and cable in the United States. And Southwire has lead some of the giants of the industry in automating the production of aluminum and copper rod.

Southwire's lead in automation won the attention of the Western Electric Company, which joined with the Georgia Company to adapt its continuous aluminum method to copper. In 1963 Western Electric and Southwire had developed such a machine. Southwire now designs, installs, and starts operations of these continuous systems for other manufacturers.

The construction industry is beginning to experience the influence of automation. The success of mobile housing is attributed by some observers to constraints on technological progress in conventional housing.

The above illustrations are intended to convey a sense of the status of automation in Georgia today—its nature and scope across many areas of business, commerce, industry, and government. Unfortunately, we do not have an "automation barometer" to provide in statistical format a profile of automation in Georgia. The Graduate School of Business Administration at the University of Georgia hopes to develop one. It should be clear from the preceding examples that automation is a well-established phenomenon in Georgia today.

The Next Fifteen Years

To use Ley's terminology, the year 1985 is beyond the foreseeable future as that term was used 20 years ago when Ley coined it. Conventional extrapolation methods for forecasting technological developments are useful for short periods —say five years. Beyond that span of time we need new methods for technological forecasting, and these, in fact, are being developed as the obvious need for long-range planning becomes more apparent in business, industry, and government. Perhaps one of the things we can hope for by 1985 will be effective systems for long-range technological, economic, and social forecasting.

One way of looking to the future is to look back for a comparable period of time and trace the developments in the intervening years. In 1955, for example, very few electronic computers were installed outside government and educational R and D centers. Today there are more than 60,000 computers installed in the United States and half again that many more on order. In 1955 there were few persons who programmed computers or served as systems analysts. In 1970 these are flourishing occupational fields and persons so trained are in great demand.

Another way to seek out the future is to seek out incipient developments in today's society and to forecast that these now uncommon practices will be widespread in 15 years or so. Automation at Jefferson Mills and elsewhere in the textile industry can be expected to be typical of the textile industry in 1985. Automation as a concept of 20 years' duration seems to be emerging from its embryonic stage to full development. Automation may be said to be an idea whose time has come. Ideas tend to mature sooner these days, and the basis for technological growth doubles every 20 years. Automation in our era has come of age along with two powerful allies, systems theory and systems engineering.

Exploration of our underwater resources will be far advanced by 1985. It is an activity in which Georgia has a great interest. Our oceanographic research is now proving out methods of staying under water at considerable depths, two or three miles; and mining and drilling far out to sea will be underway in 1985. Electrofishing may then be a popular method of harvesting fish very inexpensively. The fish catch will, of course, be processed automatically. The Japanese and the Russians are already well along on this. Inland water resources will be similarly exploited. Substantial industrial and governmental research and development facilities will be located in the area to support these activities.

In the production of 1985 machine parts, a number of new machining concepts will be employed. One method will be to use small computers to operate a single machine. Another approach will be to control batteries of individual machines from a single remote computer. A third approach will be computer control of transfer lines between machines. Another method will be batch machining —groups of machines linked by a conveyor and controlled by a computer. The methods represent a form of automation with a high degree of versatility.

Basic elements of this versatility include these assets, the systems will accept families of parts in odd lots and random mix; the machines will be linked by automated material handling equipment; the computer will keep track of incoming parts and direct them to the approrpriate work stations. The computer will set schedules, control production cycles, select tools, and monitor maintenance.

These batch manufacturing systems of 1985 will then be conventional systems. Even newer plants will have automatic assembly, automatic material handling, and automatic packaging. Test and inspection will be automated, of course.

Total plant output will be at the command of the computer in the automated factory. It was two years ago, in 1967, that computers ran only 400 processing plants from refineries to paper mills to steel rolling plants. The computer got its first blue-collar job back in 1959 at Texaco's Port Arthur refinery. By 1967 there were also 13,000 numerically controlled machine tools used by industrial machine makers and aircraft companies in the U.S. The integration of computers and numerically-controlled tools in the 1970's will be highlight of what has been called the second industrial revolution—introduction of the computer-controlled factory. Electronics and aircraft manufacturers will probably lead the way—two of the leaders being Boeing and IBM.

To achieve full electronic control of metal cutting from engineer's idea to inspection of the finished product requires overcoming one major obstacle. A way has to be found to modify the computer's set of rigid instructions to account for expansion of metal during the cutting. To do this, adaptive control is being developed with sensing tools and other devices. Cincinnati Milling Machine Company began development of adaptive control in the 1960s. By 1985 it will become truly the thinking machine and will have many applications. Most automobiles in 1985 will have adaptive control in their brake systems. Aircraft flight control systems in 1985 must be adaptive, as human reaction time is simply too slow for projected aircraft and traffic patterns.

Adaptive control, and that is a key phrase, will also be extensively used in optical devices. Earth-orbiting telescopes will use them. These telescopes will be 20 feet in diameter and will operate in a zero-gravity environment with added thermal strains from sun and shadow.

Adaptive logic controls will be rather commonplace in 1985—not only in production but in many other fields of application. A number of adaptive control concepts will be employed. The major varieties will be on-line feedback, predetermined logic, on-line optimization, and self-organizing systems. Some of these systems may be bionic systems modeled from control systems of living creatures. They will include feed-forward as well as feedback features. They will be on-line and real-time. Pattern recognition capabilities will be well established.

Self-organizing controllers will not suffer the handicaps of the old-fashioned, pre-programmed computers. By 1985 these should provide an elementary form of artificial intelligence, wherein nonliving matter acquires some of the responses and qualities of living intellect. Artificial intelligence has been a subject of intensive scientific study through the 1960's.

Functional elements of these adaptive control systems will have many characteristics. Sensors now constitute the largest segment of the current process control market. In 1985 sensors will be able to provide measurement of properties of materials being processed, optical properties, dimensions, surface finish, metallurgical characteristics, chemical composition, and molecular structure. Sensors will provide flow measurement, noncontact measurements of moving materials, and increased reliability in measure of temperature, pressure and flow.

The use of control valves and actuators will be extensive in remote operation and automatic sequencing. Recorders and indicators will have changed so that many variables can be read from a single indicator. This will demand from operators more sophisticated monitoring techniques than visual observation.

Other forms data acquisition than instrumentation will be widely utilized in 1985. Many of these devices will be linked to digital computers for accounting and purposes other than on-line control; a major use will be in management decision-making and planning. The optimizing methods of process control will have been also enlarged and extended to management.

Data networks of various kinds should be quite common in Georgia in 1985, serving industry, education, government, and public agencies of many kinds. These networks, similar to today's telephone system, will carry digital data transmitted to and from computers and between computers. Television networks will link school systems. Libraries will utilize facsimile transmission facilities.

It will be difficult to overestimate the magnitude of the impact of the computer on all phases of life in Georgia in 1985. As the computer-utility concept comes into fruition the computer will be as easily available to all as a telephone is today. EDP applications will apply to every kind of enterprise, public and private. The professions including medicine and the law, will also be profoundly affected by the computer.

The year 1985 will see the coming of age of management information systems utilizing large-scale and very fast computers. Today's computers operate in nanoseconds, billionths of a second. In 1985 we may well be in the pico-second era with our computers performing arithmetic functions in trillionths of a second. Managers and administrators of 1985 will all be deeply involved in the use of computers.

By 1985 computers will be well adapted to the natural languages of man. Terminals connected to the computer will be on every manager's desk. These will accommodate graphic and audio inputs and outputs. Every home that has a touch-tone phone will have a computer input device, and the housewife of 1985 will use it as such. Her inputs to the supermarket will originate from the food preparation center in her home a unit once known as the kitchen). Every business operation, large and small, will be utilizing the computer in some fashion. The computer will have such an effect on business that we will not be doing business as we are today. These computer systems will be used to support day-to-day operations and the flow of information for management control purposes and for management decision-making and long-range planning. In fact, by 1985 much of the decision-making may be programmed and automated.

The computer-based information system of 1985 will provide many kinds of environmental feedback on how the total business is operating, including information on customers' behavior. It will operate in a closed-loop fashion and will take corrective action to adjust the business to environmental conditions. The system will tie in all the persons in the organization—on-line! It will provide updating of profiles on the information needs of all persons in the organization.

This type of system as envisioned by Earl C. Joseph of UNIVAC will

> . . . allow the user to question the system by asking, 'what happens if I do this?' The 'what if' requires a powerful programming system to back it up. The computer needs to run a simulation of the total operation of the company, in-

> cluding the customers.
>
> To illustrate how these systems work, I would like to set up a hypothetical example. Suppose I am the manager and put into the computer my PERT updating information. (PERT is a planning tool that allows the computer to determine whether I will meet my schedule. The information I put in is my best guess of where I am and how long it will take me to do certain items.) If I put in my current input this week and the computer runs the analysis program and determines I am going to have 13 weeks negative slack, I am going to miss my schedule by almost three months! If I am working on a six-month project, three months late is pretty bad—what does the computer do? It calls me up on the telephone and makes me painfully aware of this fact.
>
> Next week . . . instead of calling me up and telling me that I am going to be late, the computer also calls my boss. You can see how the computer is starting to control its environment!

The management information systems of 1985 will have very large-scale random access memory devices. These systems will require file protection and security, many levels of electronic locks and keys. Input-output devices will be very esoteric by today's standards; the terminal of 1985 will be an intelligent terminal and will do many of the things that computers now do.

New communications systems of 1985 may truly get us out of the Gutenberg rut, as Marshall McLuhan might like to view it. By 1985 some observers say we will have gone to paperless books. Books will be edited by computers and revised electronically. The computer will correct spelling, take out redundant material, point out omissions and inconsistencies, and suggest fresh ideas. The book will go to a publisher who will distribute it electronically. The abstract of the book will be displayed on the console on the reader's desk—perhaps by picture-phone.

Mr. Joseph of UNIVAC also has this to say

> Those of us working in the computerized management information system field are predicting that such systems will evolve and come into mass use by executives. We further predict that those managers, companies, politicians, and governments who do not use such systems by 1975 or 1980 will simply not be able to compete in a society which does.

In 1985 we can expect that automation technology will be nearly double what it is today. Analysts generally say that the rate of growth of technology is exponential, doubling about every 20 years. The benefits and ill effects of technology also seem to grow at an exponential rate.

One important fact of 1985 is that technology will be predominantly of the new technology variety. Charles B. Fisher, president of Canada's Radio Engineering Products draws a sharp distinction between the old technology and the new.

> The older is folk-technology, based on manual skills, long experience, trained judgement, and painstaking learning. This is what we mean when we talk of craftsmanship today. It is rapidly and properly disappearing in industrialized societies, and will soon survive in these societies only as rather conscious handicraft, art, recreation, and sports.
>
> Modern technology, Fisher says, depends on an entirely different approach—the application of scientific knowledge and logical analysis to each problem. Thus the electronics expert feels free to offer solutions to steel-making problems, the analysts of weapons systems are sought to resolve problems of urban renewal and mass transportation.
>
> The younger generation of engineers and scientists have never learned the folk-technology of their elders, nor do they need to.

We are now in a period of transition between the two technologies. By 1985, the newer science-based technology will be in full flower with automation as one of its signal achievements. The technology gap in Georgia, between the old and the new, will have narrowed—the elongation of technology in our state will have shortened. Some of us may in 1985 look back occasionally with nostalgia to the tranquility of the 1960s.

Implications

Given the state of our present knowledge about how technology affects society, the best we can do is to forecast probable developments and anticipate some of the many issues that seem likely to accompany them. This section reflects the views and opinions concerning the educational implications of automation expressed by participants at the 1969 Georgia-Reliance Symposium on Automation and Society held at the University of Georgia. The participants were experienced and knowledgeable persons from all parts of the nation, representing education, government, industry, and the scientific community. A major concern of the Symposium was education and its relationships to automation.

The stage for the panel discussions on automation and education was set by Dr. Grant Venn of the U.S. Office of Education. Dr. Venn's emphasis was placed on how a nation must change its educational system to prepare individuals to control and live more effectively in a technological society. A secondary interest in automation was its application to help individuals learn more effectively. Education as a process viewed from the viewpoint of the school as its dominant mechanism was seen to face the critical question of change. Can the school at all levels of instruction adapt effectively to serve the needs of a rapidly changing technology in a relatively stable society? How can the educational establishment monitor changes in the environment, assess the implications of these changes, and modify the educational structure to cope with them? Is the school simply an adaptive mechanism, or is its role more dynamic?

Noting some things which have happened in our society since the educational system was established, Dr. Venn enumerated these points.

> The nation's work force can no longer absorb large numbers of uneducated.
> Education has become the bridge between the individual and a role in society.
> Large segments of our people find themselves locked out of our culture because of youth, illiteracy, or old age.
> The myth that educational quality is the ability to select students "out" is no longer believed.
> The total education gained in the "system" is inadequate for an adult role because things are changing so rapidly.
> The educational disparity between some people and some parts of the country is so great as to cause permanent inequality.
> It is generally recognized that all learning does not take place in the educational system.
> Our present educational system does not serve the poor, the inner city or minority groups, and those who need education most.

Dr. Venn concluded that in an automated society education is a necessity for everyone, a fact which simply wasn't true three decades ago. From these theses and this conclusion, the four panels consecutively addressed the issues and questions of education as it relates to automation.

A large segment of the general public has historically viewed education as a selecting out process—those who survived the course were rewarded with wealth and the benefits of non-material cultural values. The system had established credibility. It was a channel to affluence and the good life. The general public still perceives education as doing a basically good job—but questions are being asked. With the new technology, the new society, what kind of role or function must the school play? What should it be asked to do and expected to do?

What wasn't necessary, or profitable to do, a few decades ago may now be necessary. The question must be resolved as to the responsibilities of schools in the total educational process. Will the technical school serve the needs of an automated society adequately if the larger society does not serve the educational role it once provided for technical training? There are things that people don't learn in schools. If this training is not provided now outside the school, what must the school's response be?

One of the present aims of the schools is how to teach the so-called disadvantaged. Fifty years ago kids were dropping out of school all along the line from the first grade to go to work. Unskilled labor was available and didn't require schooling; now these kids can't get work. Very few jobs are available today which do not require some degree of literacy.

There is a serious lack in the educational system, in contrast for example, to industry where there are motivational and incentive guidelines for profitability and efficiency of operation for expansion of the enterprise. The changing character of the labor force places much greater emphasis upon intellectual skills and social skills and less upon physical strength and manual dexterity. One consequence has been new opportunities for women in the labor force. In the decade of the '50s, half the new jobs were taken by women! Part of the problem then from the point of view of boys from working class families is that their image of the male occupation as something involving physical strength and manual dexterity is on the way out; it is being taken over by the machines. Their image of female work is intellectual and social.

For children of middle-class families this is not a handicap. They see their fathers who are in intellectual occupations, sales, or areas using social skills. So again we have the problem of shifting from one generation to another. How much do we really know about the nature of the shift—and the value of skills, attiudes, and behavior that produce a skill?

We are now at the point for the first time in the history of man that every man must have the basic skills of learning. This means communication skills, verbal skills, and the capability to enable every man to continue to learn and relearn throughout life. This is a different kind of thing than in the past. The school establishment is at least giving lip service to the concept. Learning how to learn has become an important objective in education.

In material production we lean heavily upon individual choices and the free market; now we are able to produce and distribute goods so that at last estimate in 1967 we used only 40 percent of our labor force to produce and distribute material goods and 60 percent for non-material things such as education, health services, recreation, social services, engineering and science, accounting and management. If this kind of change takes place, isn't it reasonable to expect that the nature of human individual choice will largely determine the direction enterprises will go? If so, we must ask what kinds of things people will want from an affluent society—now that they can afford to pay for things other than material goods. Right now it seems they want more health services, more education services, more recreation. If this trend continues, what kinds of people will be required to provide these services and what sort of education should they get?

The kinds of analyses being made by scientists in the think-tanks suggest more and more consideration be given to co-operative education — between schools and industry — coordinating the work between them to facilitate the entry of people into the work force. Another view is to hold the place of the drop-out in case he wishes to return and to facilitate his re-entry into the school. Also considered is the notion of pacing and spacing in the educational program to better serve individual needs and interests.

We have a tendency in our society to place the lowest social value on the things that are most essential. For example, a food service worker has little social status—yet we all have to eat. One company took one of its food service workers, sent him to a culinary institute in New York to go through one of their summer training programs. He came back a completely revitalized person. He wears his chef's hat at a little more rakish angle than ever before. This nation has not dealt with the fact that many skills which are vitally needed in our society are not looked upon as proper skills for which people should aspire, we've been snobbish about it and we turned our backs on the whole problem. Automation in the kitchen and the automation of the pre-preparation of food may be one solution, but automation in the serving of food may not be.

Why should education in our society be restricted to a single point on the occupational spectrum—whether it is the low end or the high end? If automation does indeed mean more free time for individuals, then why can't we develop additional skills? Perhaps the intellectual can do manual work as well if he enjoys tinkering with a motor. Individuals might be trained for a dual role. They could then work six months each year in one occupational role and the other six months in some totally different activity.

There is a fallacy that because the hours of manufacturing are lessening the total working force hours are lessening. As people move into nursing and teaching and so on, their work hours do not decrease. Studies show that in typical communities the number of hours worked per week by the labor force hasn't changed in 20 years. Although working hours may be lessening in manufacturing industries, the shift to services has offset this trend in the society at large. Even in areas where the work week does decrease, there is a point at which workers start moonlighting.

Nevertheless, increased automation will bring about increased leisure in some fashion. Increased leisure must necessarily have educational implications. These implications are a concern of adult education. Ironically, the majority of the states in the country right now, through statutes or constitutional provisions, prohibit the expenditure of funds for the education of persons over 21 years of age. In these states, adult programs must be self-supporting. Those persons who need the education most have to overcome an economic barrier which makes it more difficult for them than for others.

Perhaps education can be applied to professionalize low status occupations in the production and service industries. In agriculture, for example, we have an industry that has had an enormous productivity increase through the mechanization and rationalization of its procedures, with a tremendous reduction in the labor force. Yet much of that labor force which remains as hired workers is poorly trained and has the problem of low status. Still, the hired farm worker is a member of one of the vital occupations; he is one whose services are in great demand. It is possible to train farm workers, to professionalize their occupation so that it becomes more attractive to the worker and more dependable to the employer. Some of the stigmas associated with these occupations are governmentally imposed; for example, these workers do not qualify for collective bargaining, do not qualify for workman's compensation, were not protected by minimum wages until recently.

Perhaps we are talking about a new type of farm worker. The facilities to train this man and the public willingness to train him are often not there. There are many cultural barriers to this type of training, race relations being one of the major impediments. There is the fear that large scale training of farm workers will lead them to demand more pay and lead them off the farm into other occupations.

Two kinds of questions are raised. One has to do with what technology generates or demands from education for people who have to work with it. The other question is associated with occupational roles. We have millions of persons in this society who lack education, and the gap between these people and their ability to become involved and to participate in the on-going work of society as functioning individuals is becoming greater and greater. It appears that more and more money will have to be spent for remedial and corrective measures at a very severe level of difficulty. The society has not yet been willing to invest enough money in terms of a transitional kind of preventive program. We must fit together the educational facilities and programs with the consumer of the educational product—business and industry—in a cooperative arrangement to begin to get to some of these problems. This may be the pattern a decade from now.

In the meantime in the schools, we have many of our young people who cannot see the school program as relevant to what they want. The schools in this present condition are not seen as viable vehicles for these people to become effective individuals. Why can't we build into our schools more variety right now? This is necessary to provide the required options.

One recent study indicated that the children of college-educated parents knew less about the occupational options open to them than did the children of parents who had not been to college. The general objective of the children of the college-educated is to get to college. But, in terms of career concepts and the adult role, these children are narrow and uninformed.

Pressures are evolving from many groups to change the patterns in our schools. We still have the normal curve. Those institutions listed as great educational institutions are those which have the highest degree of selecivity in the students they admit. Quality is often interpreted more in the selectivity of the institution than in how well it does whatever its objectives may be. Educators tend to be sensitive about the educational achievements of particular systems, yet these data will be necessary if we are to systematically assess the effectiveness of educational enterprises. When it was first proposed years ago that there be information about public health, the doctors were all up in arms. It was said to be a reflection on the community if a high incidence of venereal disease was found—either a dirty community or bad doctors. However, when it was found that there was hookworm in the South, that information helped to initiate a program for its eradication. Today we need more information on the kinds of schools we have.

One proposal offered was that schools be responsible for their dropouts—too many, and they lose accreditation. Another, that the schools be responsible for the student's entering directly into the work force, responsible for getting him a job in the same way they feel responsible for getting a student into college.

Doing different things in the schools will create new methodologies. There will be various kinds of teaching games, programmed instruction, and closely paced methods of conditioned learning. Business and industry can lend significant support to the development of these methodologies. Schools may be expected to contract directly with industry for their development. The companies through their organizational ability have learned to be able to do things effectively where the education system does not have the ability to move in quickly.

There are such contracts with the Youth Corps, the Job Corps programs, and in some of the aircraft programs; perhaps Boeing's on-the-job training in the Tacoma-Seattle Complex has been the largest. There have been contracts with the steel worker's union and the steel companies on the new fast train run from Washington, D. C., to New York. However, there has been little contract work with children below the age of sixteen and this is an area of concern for companies like General Learning and IBM.

The Scandinavian countries are taking a look at children's learning while receiving wages for so doing. The brightest kids may even be interested in medical training and even at that early age of twelve may work locally with the physician. The fact today is that many of our children are economic liabilities. There is a need for them to become involved in real on-going things, such as participating in a training program at Reliance Electric Company or working with a local carpenter or the doctor. A skill can be a motivation, can develop self dignity and can open up perspectives on the occupational options available.

Although automation may be increasing productivity in the manufacturing area, this is not so apparent with services. Services begin to price themselves up in the market, and skilled trades in the service sector become virtually unknown. In small towns if you want something done these days you may find that you have to do it yourself. So, while we are talking about training people for the service sector, must we not face up to the fact that there are occupations and services which are rapidly disappearing?

This is true for the youngsters, and it is true for the older people. There are many service occupations into which retired persons might go—ticket takers, movie operators, jobs of this kind. Technology has either eliminated these jobs or else the workers have priced themselves out of jobs. How will the education apparatus we are seeking to design face up to this fact?

There is an increase in the number of paraprofessionals in many areas, but in nursing there is a tremendous shortage of paraprofessionals. Certain services have been priced out of the market so society is training paraprofessionals for temporary service jobs. Because these paraprofessionals do not remain on the job, society is confronted with the never ending task of trying to recruit and train new paraprofessionals. It is doubtful that these entry jobs will ever lead to professional careers.

One solution then to the problem of low level occupations is to make them entry positions in a career development pattern. We can establish another option pattern if we make paraprofessional work a training period which will lead upward in a career pattern rather than requiring four years of college for all professional level jobs. Some persons will be attracted to these paraprofessional positions which do offer mobility, and they will stay in these positions because they are able to realize their aspirations and develop their skills.

There are currently reputed to be somewhere between three and four million jobs unfilled because the skills are not available. More and more young people appear to have the desire to move into two-year and four-year college programs which do not meet the needs of society, even though these needs are projected 20 years in advance. How do we plan to fill these important positions which even automation will not eliminate, such positions for example, as the physician? What kinds of changes can we introduce into our schools to help meet these needs? Before much can be done there are certain institutional arrangements and legal restraints which must be faced up to.

We are going to have to do something about the compulsory education laws; we are going to have to do something about the minimum wage laws; we are going to have to do something about the child labor laws! Our educational units—towns and counties—are archaic. We are just now by accident developing social, cultural, economic, and educational units that need to be defined in a different way. For example, New York City has more in common with Bergen County, New Jersey, and Bucks County, Pennsylvania, than it does with Buffalo.

There are also ticklish questions of federal-state relationships. The state must share in problems with the federal government. There is the issue of the allocation of financial support for the schools and the issue of the allocation of controls. As a percentage of gross national product, we are spending no more on education today than we did during the depression. We now spend about 51 billion dollars for education, about 35 billion for the public schools and about 15 billion for higher education. The federal contribution for public schools is a little over eight percent.

Automation as change requires new patterns and creates problems. But lack of change would also create problems. Industry tends to bear the blame for problems attributed to automation. Industry, therefore, needs to recognize the problems, real or mythical, which are attributed to this technology. Industry needs to define what these problems are and to make the effort to solve them.

Any changes in society as far reaching as those in the post-industrial revolution are changes made possible by the ability of people to change and to behave differently. As they behave differently, they can do jobs differently and they can perceive the world differently. All these changes that have to take place are concerns of education. The issue is how do we bring about the situation in which persons can learn what they need to know so they can have productive, significant lives in a society that is quite different from that society their parents knew?

Industry would really like to help, but businessmen always want to see something concrete before they start anything new. Business is already playing an important role, the Symposium on Automation and Society sponsored by the University of Georgia with Reliance Electric Company being one manifestation of this effort on the part of industry.

There are many problems in the process of change not caused by automation. Automation results from, rather than causes, many changes. Every time the status of a person is raised without his increasing his contribution in an amount equal to the amount his compensation has increased, automation is invited. In industry as wages were increased, those tasks which were not economically viable were automated. Automation was the result rather than the cause. Automation is also a response to the scarcity of labor and facilitates an expanding economy which might otherwise be constrained by deficiencies quantitative or qualitative, in the labor force. The important emphasis is not to place blame but to consolidate forces to come to grips with the problems of a rapidly changing technology—of which automation is a significant segment. The important thing is to recognize the existence of the problem and try to do something about it.

A central problem in automation and education is fitting our people to work in the highly technological society that we are coming into. Education may be the answer. Looking to the past, we see that labor unions had a big role in education with the apprenticeship system, which provided the skilled people of the past—the bricklayers, the carpenters, and so on. Today this apprenticeship system is missing. The unions today are living like 19th Century craft guilds, and they are very much dominated by the depression psychology of a limited number of jobs. The challenge to unions is to participate in the educational process in terms of the needs of the times and in the catalytic process of getting people jobs.

In the 1930s there was a cleavage between the craft unions and the industrial unions. In general, there is reluctance on the part of an industrial union to perpetuate a craft system. Industrial unions tend to resist specialized craft training because they want to maintain equality among their workers and not set up separate groups. There are now some reverberations about this among skilled workers in industrial unions among people who have gone through three- or four-year apprenticeship programs. Apprentice-trained workers as a part of the total labor force have been declining percentage-wise for some time.

If not apprenticeship, then what training should be used to prepare workers for entry into the labor force? Industry frequently does not want men without experience, and without a job the worker cannot get the experience. The problem then is how to provide the potential worker with this experience. Vocational training programs are one answer. Some unions have recognized this need and have supported vocational training programs. How much of the responsibility for the training problem should rest with the union? Union responsibility lies largely in the training or retraining of their own people, not in training people who have not yet entered the work force.

The preparation of young people for

initial entry into the work force is another aspect of the problem. In programs across the country which involve federal money, there are some eight million persons involved in vocational training. Over three million of these eight million are adults. Two parts of these programs are the apprenticeship program and the returning-upgrading program which raises the levels from low skills to the more complex skills required by today's technology.

Unions have probably received more than their fair share of the blame for deficiencies in the apprenticeship programs. Apprenticeship has never really been picked up by industry, and we can't just blame the unions. It is a partnership!

Job mobility is another aspect of the training problem from the point of view of the individual employer. Industries can invest large amounts in training only to lose the service of these employees to other firms. It takes about $50,000 to train a computer programmer—his pay for two and one half years, computer time, training time for instructors, supervision and so on. The average computer programmer and analyst has changed jobs several times before he is thirty years of age. This is one of the very serious problems in training in industry. Society has not lost his services, but the particular industry which provided his training has.

In Japan, the largest industries have the best vocational-technial schools built right into their industries. There is not much in the way of public expenditure. Industry is losing these people and is questioning whether it can afford to continue putting money into these school. Is this then an area in which the public dollar must be invested for the benefit of the total general economy of the country?

From the point of view of economic development, a rigid labor force would not be desirable. This is an international problem: responsibility doesn't stop here. Training in industry by industry may be the best form of vocational training. The training of people internationally is not new to American society; many of our technical people have come out of Germany and other parts of Europe in the last century or so.

Training in an industrial setting tends to be effective because of that setting. Students punch time clocks, work in shifts, and are exposed to many instructors rather than one. Some of the young people who are the poorest performers in school do well in training in an industrial environment. What works for the urban person poses special problems for those from rural areas. The latter don't have the industries in their communities to provide the training. Lack of job opportunities in their home communities forces them to migrate. A weakness of the Smith-Hughes agricultural program was that it trained young men to be farmers when there were no farm jobs available. How do we provide rural youngsters opportunities for developing skills required for employment elsewhere?

One problem is the lack of training of teachers themselves in the new technologies and their implications. We are just now turning out our first generation of teachers with automation backgrounds. Teachers appear reluctant to be retrained themselves; they are not going to the trouble, the effort, the time to learn. What we lack in our educational system is long-range planning. We need to identify the occupations that are needed in the next five to ten years. We need to plan the education system to provide not only the facilities but also the teachers. This is an investment problem and it is an input-output problem. Nobody seems to be doing these things. We do not have a complete planning process with education and industry and government.

We must plan for the next few years to create the skills we want from the people who are available. The gap between people and jobs can be resolved if education assumes the responsibility for placing its graduates in responsible jobs. If we marry the placement system with the educational system, the gap can be closed. Today schools are training for some unknown set of requirements!

In the past the work force itself was working essentially as an educational system. Work was simple enough and non-technical enough that one could get a job and work up and get an education. With the closing of that educational system we haven't substituted another route for entry. The person who phases out of education phases into the market place at some level, even if it is the welfare market. The trauma of the transition now faces people of all ages as old occupations phase out. The high school or college graduate faces a transition, after years of schooling, to the market place where a different set of values is found. The transition may be easier for the dropout than for the graduate.

There are several kinds of problems in education which have evolved from the rapid shifts in the nature of occupations due to automation. There is one group which doesn't get educated at all and is not able, for a variety of reasons, to start first grade. There is another group of students who are able, can make good grades, but have gotten sick of school and are in some stage of revolt. There is another group that is showing some mobility. They are the disadvantaged who do get into college and survive. The college has to deal with many kinds of students.

How can the nation change its educational system to prepare individuals to live more effectively in a technological environment? Should the system train the individual for a job? To what extent are we concerned with how individuals can live as individuals and as people? Shall we educate the whole man? Shall we educate people for the leisure we are told automation will bring?

In the next few decades the pressure on the educational establishment is going to come from American industry. Up to now the establishment has been pretty much an inner-directed entity. It has also been a closely knit political system. The middle class parents in the past have controlled the system and wanted their youngsters to go on to college were the ones found on the school boards. Now in the cities the lower class families have suddenly discovered education and want to get in on the act. The educational establishment is now becoming other-directed, and who the other is becomes very important. There will be many bids to take over. There is a new dynamics of pressure groups, including business and industry. There will be a balance in which each group will have to consider the interests of all others—that's the way American politics operate.

One change is already taking place. School boards in this country have been dominated by other than busy industrialists or scientists or technologically-oriented persons. The old type didn't know much about ten-year planning or cost-effectiveness analysis. All of a sudden school boards are becoming stocked with these people who ask the superintendent about his plan for a year from now. This change in the make-up of school boards is causing quite a pulsation in the educational establishment. The government must take a big part in this new managerial approach because a great deal of money spent on education is government money.

The following is Dr. Ralph Tyler's summary of the discussions at the Georgia Reliance Symposium.

Automation has an impact on education in two ways. It has developed technologies and devices that aid the learning process, and it has been a powerful factor in setting new tasks for our schools and colleges. The major time in these discussions was devoted to the latter subject.

Automation and the applications of science and technology to agriculture, industry, national defense, and the health services have sharply shifted the composition of the U.S. labor force. Last year only five percent of those employed were in unskilled occupations, while the increasing demand was in technical, managerial, and service occupations in the health services, education services, recreation services, social services, and science, engineering, accounting, and administration. Thus, very few people, who have little or no education or training, are able to find jobs while the strong demand is for people with more than high school education. When this situation is compared with the past and present, great educational changes are clearly necessary. Heretofore, about 20 percent of our children have not attained the level of education required for employment above the unskilled level, 40 percent have not attained the equivalent of high school graduation, and less than 15 percent have reached the level of college graduation. The new requirements of our complex technological society thus set three new tasks for our educational institutions.

To enable all, or almost all, children to gain a functional elementary education

To enable three-fourths of our youth to gain a functional high school education

To enable at least one-half of our youth to gain effective post-high school education

In addition, the change taking place in occupations requires the reeducation of an increasing number of people whose jobs have become obsolete so that they may be able to gain employment in new jobs that are becoming available.

The discussion highlighted some of the obstacles that would need to be overcome in order to accomplish these new tasks. Many of the children who have not been reached by our schools came from pre-industrial backgrounds where the ways of life are greatly different from the conditions they now face. For example, the families of tenant farmers in the Mississippi Delta have had little contact with printed material and reading. They have used little, if any mathematics. They have lived a subsistence economy — not one in which money was basic. When working, they were performing unskilled tasks, but the need for labor was sporadic so that regularity, punctuality, saving for the future, efficiency in operations were largely unknown.

With the applications of modern agriculture to the Delta, these families are no longer needed there, and they are moving to the cities where they are suddenly immersed in an urban, industrial society. The children come to school without the kinds of background experiences on which the curriculum and teaching have heretofore been based. They are not able to succeed in the educational tasks which have been set for them. To reach these children, our educational efforts must relate to their whole way of life. This means sharp changes in curricula and in learning and teaching activities, beginning in the early childhood years. Similar problems are faced as new groups enter high schools and colleges.

The discussions commented on the difficulty of effecting changes within established institutions like our schools and colleges. Proposals were made that we develop competing educational institutions to stimulate new and improved practices. The need for cooperation between industry and education was emphasized so that the transitions and entry points from school to work could be made more flexible. Also, the important potential of cooperative education, the planned alternation of work and study, could be more widely adopted. More imaginative use of new technologies to aid student learning was also seen as a means for meeting the new educational tasks.

Furthermore, the groups identified the important help in education furnished by the interaction of students themselves. Children and youth do teach each other, and systematic efforts to develop arrangements for older children to tutor younger ones, and for teams of children of the same age to work together on some of the learning activities could enhance the effectiveness and efficiency of education.

In general, the discussions took an optimistic view about the possibility of our accomplishing the new educational tasks. A thorough-going review of American education in terms of a system analysis of learning and teaching should reveal promising ways of stimulating, guiding, and facilitating learning that, although new to schools and colleges, offer promise of marked improvement in our national efforts in education.

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critique:

Automation in Georgia

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READING Dr. Scott's paper leaves very little doubt that the phenomena of automation is not only present in Georgia but well advanced and here to stay. He also implies that the surface has barely been scratched in the application of the concepts of automation in ways which affect our daily activities and indicates that the pace of such application will greatly accelerate in the next decade and one-half. I can only agree.

In general, the benefits of automation have not yet been experienced by the general public in any degree approaching that of the business community. This is because automation requires money and change. It is difficult to determine which of these is the most obstinate problem but in any event the business environment, with its varying degrees of militaristic lines of authority, is better able to coordinate its efforts in marshalling the necessary resources and obtaining the desired benefits. The general public, on the other hand, has such a diversity of interests and so many different goals that in our democratic environment it is very difficult even to determine what advances will best serve public and national interests much less achieve them. Nonetheless, as Dr. Scott correctly indicates, application of automation techniques will advance and resulting benefits and conveniences will be made available to or forced on the public. Since these benefits and conveniences must in some way be paid for, the question then becomes whether or not the average individual will be capable to pick and choose between them so as to maximize his return and minimize his cost and stress. In fact, the individual without this capability may not even be able to effectively structure his day to day environment with the result that he may not be able to control the course of events in his life. We already see this effect with some people in their unwise use of easy credit.

The slowing effects of capital outlay requirements, technological optimism, labor union resistance, slow public acceptance of change, lack of understanding of the problem by our technologist, cause me to be somewhat less optomistic than Dr. Scott as to the stage we will be at in 1985. There is little question, however, that at least in concept, the types of things presented by Dr. Scott will indeed come to pass before the turn of the century.

Given the slowness of changes in our educational system along with the fact that we have not yet defined (much less refined) what needs to be taught at the elementary and high school levels to equip the average individual to survive with reasonable peace of mind in this environment, one cannot disagree that it is already time to begin evolving an educational approach and program.

The schools must concentrate on basic understanding of principles in a problem solving environment—not rote memorization. Dr. Scott suggests that industry should take an increased responsibility for job training since industry seems to be more successful in this type of activity. This is bound to be true since industry knows more precisely which jobs must be filled and what the training requirements are. The schools must provide input to these training programs in the form of students who at any given level of achievement are equipped with the general attitudes and basic understandings that make them viable trainees for an appropriate skill level.

Now certainly it is neither possible nor desirable that every individual should be trained in computer programming or systems engineering, and we should not attempt this even though it is the computer that will bring to pass the dramatic changes envisioned. Dr. Scott's well taken point on the emergence of "service" jobs as a major segment of the employment picture emphasizes the importance of the psychological aspects of the new educational approach he advocates. It would seem that he is correct in saying that only through close academic-industrial planning and cooperation can there be any hope of "respectablizing" many categories of service jobs. Since these will be the bulk of the jobs (and certainly the vast majority of the jobs available to average individuals), we must somehow through the academic process, confirmed and expanded in industrial practice, begin to nurture in the minds of our youngest children the thought that it is respectable to serve others and one is not a failure if he doesn't become a "boss." When one realizes that in order to begin this process the service job of teacher itself must achieve status in the eyes of the pupils and this "status" largely results from family attitudes, the immensity of the task becomes evident.

As indicated by Dr. Scott, automation itself must be applied to this problem. Somehow we must engineer systems of teaching which on one hand allow each student the opportunity of progressing step by step to the level which he is able (or willing) to achieve and yet leave him prepared to enter some appropriate level of industrial training at any step of the way. This does not seem possible without the further development of programmed learning techniques which have the so aptly called "adaptive control" and which in essence allows individually tailored instructions to each student. In fact, I believe that only through such techniques will the job of teacher regain status simply because very few teachers can successfully (in the eyes of parents particularly) customize the six or eight increasingly complex subjects they teach to the individual needs of 25 to 35 children. Therefore, the teacher must be relieved of some of the burden of routine instruction and be more available to serve the psychological and emotional needs of the students. In other words the teacher must become a trouble-shooter and problem solver for non-routine instructional needs of the students.

This too emphasizes the great need for joint study and development of an overall strategy by bringing together the combined know-how and talents of the educational and industrial worlds leading to a cooperative and coordinated education program. All that's at stake is the future of our descendants, our state, and our nation.

In summary, I generally agree with Dr. Scott's observations and conclusions. While he modestly eschews any pretense of 15 year foresight, his extrapolation of the trend of events certainly is accurate as to practical concept without regard to timing. Timing of such events is itself dependent upon the educational process. His analysis of the interdependence of the educational and industrial aspects of this problem is certainly incisive.

It is time to begin.

Transportation in Georgia

By Richard M. Forbes, M.A.

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TRANSPORTATION in Georgia is a collection of various devices and systems, most of which operate independently. Most transportation facilities are regulated, operated, financed, and built by a wide variety of public and private organizations, with a wide variety of interests and objectives. Little coordination exists between elements of the transportation system. In reality, the widely varying elements and objectives may create a transportation "anti-system."

Transportation in Georgia suffers from a basic comprehensive policy vacuum and financial disparities, both in terms of investments and operations. The transportation network also is compromised by lack of coordination and a lag between certain of the facilities and terminal and interchange services, as well as tendency of some equipment manufacturers to produce equipment that is not suitable for the facilities currently available for that equipment. Public attitudes about transportation and related public issues emphasize the automobile and negate some of its direct effects such as air pollution and urban/suburban sprawl and its costs.

Relatively few changes in the transportation network can be visualized in the period between 1969 and 1985 because of a general attitude in the society which seems to prefer no changes or at best gradual changes. This attitude apparently is shared by most designers, manufacturers, and operators. Thus new devices representing significant technological changes will not be offered or adopted. Changes will be of a minor and gradual nature, made in the name of efficiency and to prevent disaster from problems such as air pollution. Little will be done in the name of improving environment.

Transportation facilities will continue to be made to serve obvious needs as they exist, rather than be used as a positive force to create change and enhance development potential because of the lack of overall comprehensive policy and an adequate expression of goals and objectives for (and by) the state. This problem will be complicated further by the fact that the managers of the elements of the system tend to serve only what seem to be their best interests rather than those of society in general.

Education in Georgia will not be affected to any significant degree by the transportation network. The forces that will affect education are already in motion and those are associated with urbanization.

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THIS paper is not a technical analysis of transportation or any of its elements. An attempt was made to investigate specifics of transportation within the state, especially in state planning context, but little comprehensive information was available on transportation. One report published by the State Planning Board does present information on the facts of transportation, mode by mode, as it exists in the present, but no projections, interrelationships, or goals are expressed. Consequently one must conclude that changes in transportation will occur, but it is highly probably that the changes will be very gradual and will reflect the continuing trend to urbanize and suburbanize the state, especially the northern portions. Guidance and firm policy emanating from Georgia does not seem likely in the near future. Neither does it seem reasonable to expect truly coordinated federal policy. Further, translating policy into firm regulation is complicated by the fact that transportation facilities are both public and private, and are regulated by a group of public agencies, many of them federal, with substantially different policies, attitudes, responsibilities, financial resources, and motivations. In addition capital for construction of transportation comes from a wide variety of sources, both public and private, with the federal government playing a significant role.

"Transportation" is not a system. Because of its many elements, many managers, many funders, and many users, it is more of a vast "anti-system."

A great deal of information is available on individual modes of transportation within the state. However, little has been assembled on the interrelations of the transportation network. Virtually nothing has been collected on the volume or coverage of the various origins and destinations of the many kinds of trips made by people and products around and through the state. In a search for information on the transportation network in Georgia, not one map was found which presented information on where all of the major pathways of the various networks exist. Nor was there comprehensive data on volume of traffic—whether people or tons or cubic feet or gallons. No symbolic maps or presentations of any kind seem to be available which present the role of the various cities in the state as terminals or exchange points—or the volume and importance of the exchange and interchange movements. Transportation data are not analyzed on a "cascading" or cumulative basis. Certain types of data are not even available because movement of certain types of goods, in interstate commerce for example, are regulated, and therefore statistics are maintained by federal agencies which do not require dissemination on a state-by-state basis. Many companies do not make available specific information beyond the requirements of state or federal law or regulation, for the reason that competitive disadvantages may result.

This introductory statement is neither an excuse nor an apology for the "state of the transportation art." Rather it might be considered an announcement to the reader that an analysis of "Transportation" in any general dimension with a geographic or political boundary is likely to be highly generalized and based upon an amazing lack of data—unless the study is to be an enormously complicated and expensive undertaking. This should be done, probably by the state. In the absence of a comprehensive analysis, my comments must be considered more in the nature of an essay which will attempt to convey a set of impressions about transportation and what it may be in the year 1985.

Present Transportation Circumstances in Georgia

The Georgia of today is a collection of transportation corridors which focus on a few points within and at the edge of the state. One major focal point, Atlanta, dominates the origins, destinations, interchange, and terminal movements of the entire state transportation network. In general it seems safe to observe that the more urban an area the more likely it is to contain a great concentration of all types of transportation—facilities which will be more extensive on a per capita (or density) basis than can be expected in less urban or less extensive circumstances. The Atlanta circumstance is further enhanced because of its beginnings as, literally, Terminus which collected and dispersed materials for the entire Southeast. The continuance of that role has helped increase the availability of transportation in Atlanta, and therefore, in Georgia.

Georgia in some respects is a "one hundred percent location." This "hot," commercial aspect of the state, especially with regard to all of the southeast, was created by the early venture into the railroad business by the state and the happy accident of geography which made Atlanta the place to pass through to go east or west for all southerners and those who wanted to serve southern markets. The development of the Atlanta Airport, coupled with airplane capacities (distance and load), existing markets, interchange potential, and the subtle effect of a cummulative pressure for service, further enhanced the centrality of Atlanta and, thus, Georgia. The construction of Interstate Highways with their focus on Atlanta and the rise of the motor truck magnified even more the Atlanta area as a transportation center.

The other urban centers of the state do not enjoy the same level of transportation activity experienced in Atlanta because of the lack of either people to serve or industrial activities to service. Transportation activity apparently drops off rapidly as urban areas diminish in size throughout the state.

Transportation Issues

Vacuum in Policy

It is almost unnecessary to discuss the problem of urban congestion caused by the heavy demands for space in the transportation network. Most people, however, think of the congestion caused by the automobile and, specifically, the problems of rush hour traffic. The universality of the problem frequently obscures other urban transportation problems. The lack of coordinated policies with regard to transportation facilities and terminals breeds excessive transfer movements which generate unique forms of congestion and traffic volume. Motor trucks and streets are used for many of the transfer movements from random origin points to dispersed delivery points as a substitute for potentially more efficient systems such as long haul conveyors or tunnels. The lack of interrelated, coordinated policy at all levels is a most important issue. It matters not whether the policy should deal with one city's transportation problems as they relate to all modes and devices, or comprehensive policy at the state or federal level. Fragmented bits of policy can be found which are comprehensive to some degree for railroads, or airports, or motor trucks, but not to all three, because the regulations themselves deal only with the one mode.

Financial Disparities — Capital Investment

Units of the transportation network variously enjoy or suffer from vastly different policies with regard to the facilities they use for their respective operations. Many pleadings can be discovered by (or thrust upon) observers of the transportation scene which tell of the sufferings of one or another facility. The railroads once benefitted from great and wonderous subsidies of land. Today the trucking industry enjoys the subsidy of operating upon publicly constructed facilities (especially the freeways) in circumstances which many experts say is unfair subsidy. Truck operators on the other hand think they pay their share or more of the taxes. The railroads at the same time are losing business to trucks because of rate structures created in some respects by the "free" roadbed enjoyed by truckers. Waterways constructed by the Corps of Engineers open routes which offer competition for railroad cargo. Public funds used for construction of airport facilities to meet demands placed upon them by ever larger aircraft raises the issue of freight as a significant competitor for cargo now carried by truck and railroad in much the same fashion that the railroads lost passenger business to the automobile and the airlines. Many other inequities can be found.

Virtually all modes of transportation at one time or another have benefitted from subsidy. The problem is that in some cases the subsidies remain, while in others they have been eliminated. Certain kinds of subsidy are oriented to geography or political units, such as choice to build rural roads in the face of rapidly multiplying demands for urban roads. In some cases this is caused by a parsimonious or impecunious legislature trying to extend funds too far, or simply exercising a bias, or as a manifestation of ignorance.

Financial Disparities—Operations

The creation of public policies which make it necessary to regulate activities and rates, or to subsidize the operations of a transportation mode, have also created inequities in rates between competing transportation modes and media. Some observers feel strongly that taxes on motor trucks are far too low, which gives them a great advantage over railroads as they compete for cargo. The regulation of railroad freight rates has also been an issue of considerable negative importance to the south in times past, and in some circumstances it is conceivable the same issues could be raised again. Public operation of certain type facilities such as urban mass transit can skew the cost of transportation for the urbanite under some circumstances. Taxes imposed upon vehicles, fares, or fuel can also distort operating costs to the extent that a transportation facility can become non-competitive or priced out of the market. The tax on fuel consumed by the Atlanta Transit Company buses combined with the three percent sales tax on all fares is an example of an inequity that imposes mainly upon disadvantaged persons who have no transportation alternative. Large numbers of people other than the poor must have some form of transportation available to them. Young people and old people are two relatively large groups who cannot qualify for drivers licenses, for example. In addition, the need to relieve traffic congestion should produce policy which would encourage the use of transit vehicles of all types. Tax policy should not increase the cost. Reality would seem to dictate the use of a subsidy of some sort.

Technology and Product Availability

One part of the transportation problem must be associated with the devices that are used to perform the transportation job. These include not only the vehicles such as the airplanes, trucks and automobiles, but also the roadbeds, the airports, freight stations, and transfer points. To the extent that these facilities and the devices they serve meet needs and serve society, Georgia has a transportation network. On the other hand, as the devices fail to change, or change more rapidly than other elements of the transportation network facilities, services may be out of balance, compromised or inflicted with special burdens.

Consider the problem faced by major airports. In Georgia only Atlanta meets the criteria for a major hub. Airframe manufacturers and airline operators have a vested interest in operating efficiently. As efficiency in many respects is equated with size, air craft have doubled and redoubled in capacity. The impact of this is that planes carrying 300 persons will soon be landing in Atlanta. The immediate future will see aircraft passenger capacity reach 500. Few, if any, changes will be needed to develop aircraft capable of transporting 1,000 passengers. But what of the airports? Usually federal and local funds are used to build new facilities. These funds are limited and there is a good possibility that aircraft will be flying long in advance of the development of adequate terminal facilities. The dilemna seems unreal. Why not regulate the aircraft size in order to conserve public funds? Or, why not require airlines and airframe manufacturers to furnish the complete terminal facilities? Many alternatives present themselves as answers to the problems of keeping pace with the manufacturers' products and technological innovations, yet our society fails to use any of them. The responsibility belongs to the federal government, yet a high percentage of the cost of a new terminal may have to be borne by local government.

Modernization of railroads is an interesting case. Only recently—within the last ten years really—have the railroads begun to change attitudes about ways to haul freight. New box cars and cargo devices were put into service which permitted significant changes in freight rates. Other steps were taken to modernize operations. However, little or nothing seems to have been done to speed shipments by increasing operating speeds, or switching speeds, or cutting transfer time (except for the use of piggyback vehicles).

Automobile manufacturers successfully build in one kind of obsolescence, stylishness, and yet resist technological change even if it is in the interest of the lives and safety of the auto buying public. Relatively few changes have been made in the internal combustion engine to limit the emission of hydrocarbons—the poisonous major creator of smog. Little work has been done on alternate power sources. Virtually no changes have been made by manufacturers to improve the safety characteristics of cars and trucks themselves. The only changes that have been installed have been reluctant responses to commands by the federal government. Many, many more need to be made, in the opinion of safety experts.

Urban rapid transit represents another set of attitudes which tend to limit product design and development. A very high percentage of the mass transit market exists in the older major cities of the United States. Since those systems were developed, in the main at the beginning of the Twentieth Century, the vehicles that serve them must be designed with relatively minor changes that can be made to fit into the old tunnels, station spacing, and roadbed alignments. Since the manufacturers seem to feel that the older cities will represent a very major share of the mass transit market "forever" they plan very few changes for vehicles, or propulsion equipment. Technical improvements are being made to control systems, ticket taking devices and similar "exterior" components of the mass transit systems. Cars themselves are neater, lighter weight, and quieter, but they operate at about the same speeds with about the same capacities on the same old lines. When extensions are made to existing systems, the old design standards dominate because equipment must operate on both old and new sections. Likewise when engineers design a new system in a new city, they tend to make proposals which reflect existing mass transit technology (which in reality is of late Nineteenth Century origin), because manufacturers have that type of equipment or design skill or production ability immediately available. No new tooling or development activity is required. The steel wheel on the steel rail is still the "way to go." Gauges, capacities, speeds, and in some cases alignments have been modified and improved, but today's rapid transit and mass transit technology is based on improvements to ideas which were not considered revolutionary, outlandish, or impractical three quarters of a century ago.

Public Attitudes

The love affair of the American with his car is the best single example of the existence of an attitude which creates problems for the transportation "industry." The willingness of the suburbanite to fight traffic at speeds frequently averaging less than ten miles per hour on his trip to work and then back home indicates a fierce identification with the family or individual automobile. In spite of hazards (including poisoned air), high capital costs, high storage costs, and enormous time delays because of congestion, the average American seems to be remarkably content with his automobile's place in the "infinite urban scheme of things." Granted the alternatives to an automobile are sometimes grim: high density living in a dirty city, riding like sardines in a pokey transit vehicle, exposure to weather while changing from one mode to another, walking on part of the trip, limitations of trip frequency because of schedules and demands, plus limited geographical service. The liberation of urban and suburban man and his family brought about by the automobile is one of the most profound phenomena of the Twentieth Century. It is not a complete liberation, however, and the price of the liberation has been high. In exchange for "freedom" of movement and location, society is now subject to pollution, death and maiming, delay and inefficiency. Yet the "love affair" continues. It has changed the landscape, both urban and rural, the economic system, politics (especially in the suburbs), life styles, and attitudes. The passive acceptance of the impact of the car and all other rubber tired vehicles operating freely will probably not be easily changed.

Certain other public attitudes might also be mentioned. There seems to be a tendency for the public to be suspicious of many of the changes that are occurring in the national society. The propensity seems to be to resist changes that can be easily perceived. Yet many of the changes are taking place gradually—and thus are not seen because they are somewhat evolutionary and are not subject to scrutiny or protest. Air pollution is an example of a change that in most places has been gradual; yet, once it arrives it seems to be accepted, or at least is not fought vigorously.

The citizens' public attitude toward taxes seems to be growing more and more definite each year. This is a universal phenomenon yet it seems to be extremely active on the local governmental level—probably because people feel that heavy protests can be manifest and implemented in a local government circumstance. The reluctance of citizens to be subject to an ever-increasing tax burden has been and will continue to be a negative factor in changing public policy and responsibilities. Georgia, with its rapid change from rural farm circumstances to rural non-farm, urban, and suburban life styles and the increased cost of providing urban type services, tax agonies will be a dominant feature of public policy debates. Services to a low-density, spread out suburban or rural non-farm area are more expensive than in an urban area or in a central city because of the enormous numbers of people who bring about an admixture of problems, making the entire environment more expensive to serve adequately.

The Future of Transportation

Most likely, the state of Georgia 15

years from now will not look or feel too much different than it does today. Changes will have taken place, and these changes will be obvious to politicians, public managers, and merchants. Citizens, however, may not recognize the differences because the changes most likely will take place in a gradual fashion. More people than ever before will be living in the cities and in nearby suburbs. The countryside will likely accommodate more people than before, but many of these residents will not be oriented to farming. The rural numbers will be greater, yet they will represent a smaller percentage of the state's population. It is highly probable that many more people in terms of absolute numbers and proportions will be living in the northern parts of the state.

The second type of "managed" gradual change will be that type which is oriented to providing a little more efficiency. Falling into this class are those changes that would make it possible to get into the city a little faster—a new freeway, for example, might do that or a bus that would carry more people for about the same operating costs. Certain changes of this type have been built into both existing and proposed rapid transit systems around the nation. Transit cars are made out of aluminum, more efficient motors are used, automatic devices eliminate personnel and costs are thus lowered. These tactics avoid the problems associated with the heavy efforts and sometimes large expense associated with the development of new systems that may be more effective and less expensive in the long run. The most efficient way to solve urban transportation problems may be to develop a completely new vehicle for use in the urban area, with its own right of way, at a different scale both in terms of time and of distance, yet no activity can be seen except for some computer model studies of various alternatives.

A possible third type of "managed" change may come into being. This would be a change oriented to the comfort and pleasure of users. Changes of this nature might be the development of a transit bus that sat fewer people in more comfort, or the rearrangement of transportation corridors in the city and in the county so that a trip would become aesthetically pleasant—a delight rather than a "drag." This kind of change would increase capital costs of transportation facilities, but they might make touring once again a pleasure, if safety was also built into the transportation corridors. Safety, however, may be one of the by-products of an aesthetic roadway.

Transportation—Its Role

The transportation network is an ambivalent phenomenon. On one hand it reflects the physical arrangements of the society it serves. On the other, it can shape and mold the physical circumstances in which the society exists. Man's early history and development was conditioned mightily by transportation circumstances. Urbanization did not arrive until minimum transportation facilities were available—at least for farm to market movement of goods. The sweep of urbanization in the Nineteenth and Twentieth Centuries was made possible by a variety of transportation devices such as the steam engine and the electric motor, then the internal combustion engine. The development of the nation was a function of the availability of transportation. The very existence of Atlanta is a result of transportation and its importance to the entire southeast.

One must concede that transportation is a better "creator" than it is a "server." Part of the ambivalence associated with transportation as it is analyzed by specialists of all sorts is that the roles of transportation are often not fully appreciated. For example, the installation of a transportation facility in a corridor can generate a response in the form of substantial investment on adjoining land and thus create a new environmental circumstance. This role may or may not be appreciated by the managers of transportation investments or transportation operators. On the other hand, a preoccupation with giving "service" sometimes causes the managers to "bend" the transportation corridor (or investment) to the extent that negative effects result and growth is directed into places not wishing growth, or into circumstances not able to meet the special needs brought about by the transportation engendered growth.

The "watchword" today in virtually all quarters, public and private, is *service*. Transportation must serve everything and everybody. And this is true. Transportation must serve the commuter, the manufacturer, the farmer, the poor man, the vacationer, the car builder, the merchant, the school child, the retired person, in short all elements of the society rich or poor, organized or not.

Almost without exception personnel involved directly or indirectly in transportation operation, manufacturing of transportation gear, development of transportation facilities, or the regulation of transportation tends to think of his role as being one of *providing service*. Service to the public, or the many publics dominates the thinking of the "vendors." Highway departments build highways and freeways so that people can drive where they want to go. They also serve the truckers and the busses. The varieties of service and levels of demand may, however, be vastly different, yet all of the facilities are open to every user and potential user. Which of them is served best? Which is poorly served? Are there inequities in levels of service or costs because of the compromise effected in a universal design? Recently in Atlanta discussions were held about the creation of "busways" for the exclusive use of mass transit vehicles. When will the discussion turn to "truckways"? The point is that compromises do affect users, and the concept that the service is the "be all" and "end all" may not be completely appropriate.

Separate state and federal agencies regulate, at different levels of interest, different transportation devices. The regulation is required under various laws and in the case of some states' constitutional provisions, regulations therefore must be in the public interest. Again *service* seems to be a good description of the attitude. However, the differential pattern of regulation imposed by different agencies may, or may not provide for a maximization of relative efficiencies between different modes.

Serving public needs through the manufacturing and marketing of many automobiles is one of the avowed purposes of the industry. Profit is also a motive—as it is with many other manufacturers and operators. The production of an overwhelming number of cars may not be completely in the public's interest, or meet true public needs—especially if the vehicles are less than safe and also poisonous. Likewise the highway departments that build roads for multiple use may not build the safest roads, or build roads in the best locations.

The real issue for transportation planning and development is whether any (or every) transportation facility should only serve, or whether the facility should be used to guide or influence growth, development, or the maintenance of those places and people it serves. Should a transportation facility be placed so that it meets an existing demand, or should it be located so that the service is offered in a location where growth is desirable which is equipped to handle the growth and development usually brought about by the installation of a facility? In an urban or suburban context, should the freeway be built where people now live which may experience growing problems or should it be placed in a location with all the necessary elements to take the forecast growth, with comfort? Should a transit line or freeway be located in a place just because there are potential customers or users rather than in a location with fewer people, but with an infinitely better potential for growth, development, and environmental satisfaction?

Obviously the questions cannot be answered out of hand. Simple suggestions do not suffice, but it seems fair to observe that much of the activity in the transportation arena over the last several decades has been oriented to meeting the immediate needs, *to serving* in a passive fashion. The option of installing a transportation facility so that it generates a response and thus guides growth in a positive way has seemed to be beyond the interest of the management of all types of transportation activities. This discussion does not mean to imply that a creative location of a transportation way is not service-oriented; merely, that a creative outlook about capital investment may serve better and broader objectives than an investment which is narrowly oriented to a simple meeting of existing demand—and a forecast demand based upon the old ground rules and conditions.

Transportation Objectives And the Future

Even at a creative peak, the investment of funds for a transportation facility must be oriented to serving a social goal and a community need. There are many existing options for implementing social goals, but transportation in one form or another is likely to be a party to most of the options. Transportation facilities can be used effectively if, but only if, the social, economic and political goals are spelled out, and if the responsible investor (public or private) responds to the expression of the goals.

One of the greatest weaknesses of the many societies of the United States and all of its subordinate constituent bodies is the inability to clearly express goals for the nation, the state, the city, and in many cases, even for the individual. Lack of an expressed goal deprives the transportation investment of any significant impact on "goal reaching." Investments are thus plowed into the ground willy nilly, resulting in the expansion of the ambivalent nature of society and of the transportation device itself.

The basic disorganization of the elements of the transportation network reflect the pluralism and the disrupted changing society that has been dominant recently. Until articulate goals are expressed and acknowledged by the elements of our society, the best that can be expected of the transportation network is more of the same disorganization. The strongest and most popular managers will prevail and the units they manage will "contribute" and extend their modes—quite probably at the expense of other options. This will happen in spite of the economies that might be effected through the use of other modes. Quite probably the heavy investments will be made under the limitations of conventional technology with gradualism as the major modifying force. Most likely investments will be made with relatively little concern for interconnection with other transportation modes. The odds would seem to favor little or no concern for true economic insight regarding values of competing modes, ultimate service, growth impact, or the creative use of large investment to accomplish basic objectives.

This paper must conclude that transportation in Georgia will be little different 10 or 15 years from now. Since little change is visualized in facilities, options available to individuals or in the attitudes towards transportation, little impact can be seen on the educational system of the state. There is no doubt that sweeping changes in transportation technology are possible. Personalized, exterior powered, automated, high speed vehicles on a guideway can be developed and installed on a test basis within five years and can be used to solve urban and suburban—even rural—commuting problems. Very high speed (300 miles per hour) vehicles can be used in tunnels, or at grade within special rights-of-way to minimize air space congestion around airports, leaving planes for transcontinental and intercontinental travel. Commuting radius can be extended to 50, 100, even 200 miles from central cities using technology and hardware that can be produced in relatively short periods of time—five to 10 years. The arrangements of our cities and the state can be very substantially modified if the present policy of gradualism is avoided. But reform and change do not seem to be characteristic of this society at this time. Bravery and a willingness to experiment are lacking at the basic level of our society—the individual. Because of this, the society's leaders have not manifested goals or objectives which would lead to an attitude conducive to reform.

The Role of Education

The society as it exists today is a manifestation of the conditioning it has received. Obviously our people have not been conditioned to accept change as rapidly as it occurs. Neither have our citizens been able to adapt and adjust to the urban phenomena which dominates life today. The educational institutions must condition students, and all people, to the circumstances beyond the immediate issues of an education. Our people must learn to enjoy change. Our people must be able to respond favorably and actively to the suspense and adventure that changes create. Our people must learn to use change as a positive force that can make life better and more worthwhile for all people. Educators and their institutions must present students, and the rest of this society, with courage and daring and imagination to live with the new technology, whatever it may be.

The chaos that exists today will be compounded beyond belief because of the dominance of the "anti-change, gradualism, passive" attitudes unless they are wiped out. Leadership in education can do the wiping. If it does, when a similar paper is written in 1985 on TRANSPORTATION the author's response will be vastly different. There is no reason for optimism today.

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critique:

Transportation in Georgia

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TRANSPORTAION in Georgia, as viewed academically by the author of the position paper, is characterized as an anti-system suffering from a comprehensive policy vacuum and financial disparities, both in terms of investments and operations. The transportation network is also compromised by a lack of coordination and a lag between certain of the facilities, terminal, and interchange services.

Not being satisfied with literally condemning transportation in the state, the author offers no hope in the next five to 10 years. In his opinion, reform and change do not seem to be characteristic of our society at this time because bravery and a willingness to experiment are lacking at the basic level of our society . . . the individual. Hence, it would appear that the present 932 transportation firms and the 165 transportation equipment manufacturers and suppliers in Georgia should somehow withdraw their present investment in plant and equipment, lay off thousands of employees, and seek more socially meaningful business ventures somewhere else.

In addition, the two million automobiles in the state should be relegated to the scrap heap and old "Dobbin" reactiviated for service. This action would certainly remedy the air pollution problem which the author seems obsessed with, and which he disproportionately attributes to transport modes. It would also relieve the urban congestion problem and avoid the investments which are now "plowed into the ground, willy nilly, resulting in the expansion of the ambivalent nature of society and of the transportation device itself."

With regard to the need for goal establishment, be it social, economic, political, or educational, as this Commission is charged, I concur with the author. It would appear, however, that with the diverse disciplines being covered by the 19 position papers, the creation of concomitant goals would evolve. These are needed, assuming the author's premise that they are totally lacking today. It is incomprehensible to this writer that the prime regulatory agency in the state, the Public Service Commission, and its federal counter parts, the Interstate Commerce Commission, Civil Aeronautics Board, and Federal Maritime Commission, only regulate, and do not develop and recommend through the legislative process, changes necessary and in conformity with future needs and goals.

In this area we have on the federal level the Department of Transportation, which is charged with the responsibility of developing national transportation policies and programs. An integral part of this department is the Office of Urban Systems and Environment. There also exists within the D.O.T., a separate Administrator for Urban Mass Transportation. Some state governments have already emulated the federal transportation planning concept. Such a structure formally recognizes the need for state goals in transportation, through coordinated and developmental planning, which the author espouses.

The question which now must be asked of this position paper is, "does it serve the specific purpose of the Commission with regards to identifying the present and projecting the future of transportation in the state, and does it offer suggestions with regards to the type of educational system necessary for the future transportation environment?" The author indicates that his is not such a presentation, rather an essay conveying a set of impressions about transportation and what it may be in the year 1985. It is ironic that while the author realizes the responsibility of educators and their institutions, he offers no suggestions for goals by which necessary change can be accomplished. Nothing is mentioned about any transportation curriculum which might be required to meet the needs of tomorrow. There is recognition, however, of the technological changes which are possible in transportation in the next five to 10 years, but the author is convinced that the policy of gradualism will prevail in apparently all sectors of the economy. So, why bother?

On the assumption that the author's views of transportation, society, and the individual are overly despondent, we must then put forth to this Commission, for their consideration, facts, figures, and recommendations in the event, that somehow, some day, society may discover the need for goal establishment; that transportation firms will do more than just provide service; and that freeways and transit lines will be located in low density areas which offer better long run potential for growth development and environmental satisfaction.

Basic Research Effort Required And Some Sources

To place the role of transportation in Georgia in its proper perspective requires basic research of present day activity. Some publications appropriate to this task are listed in the attached bibliography. The *Census of Transportation*, conducted by the Bureau of Census, Department of Commerce, gives invaluable information with regards to origin, destination, flow, commodity, identification, and travel statistics on a national, regional, and state basis.

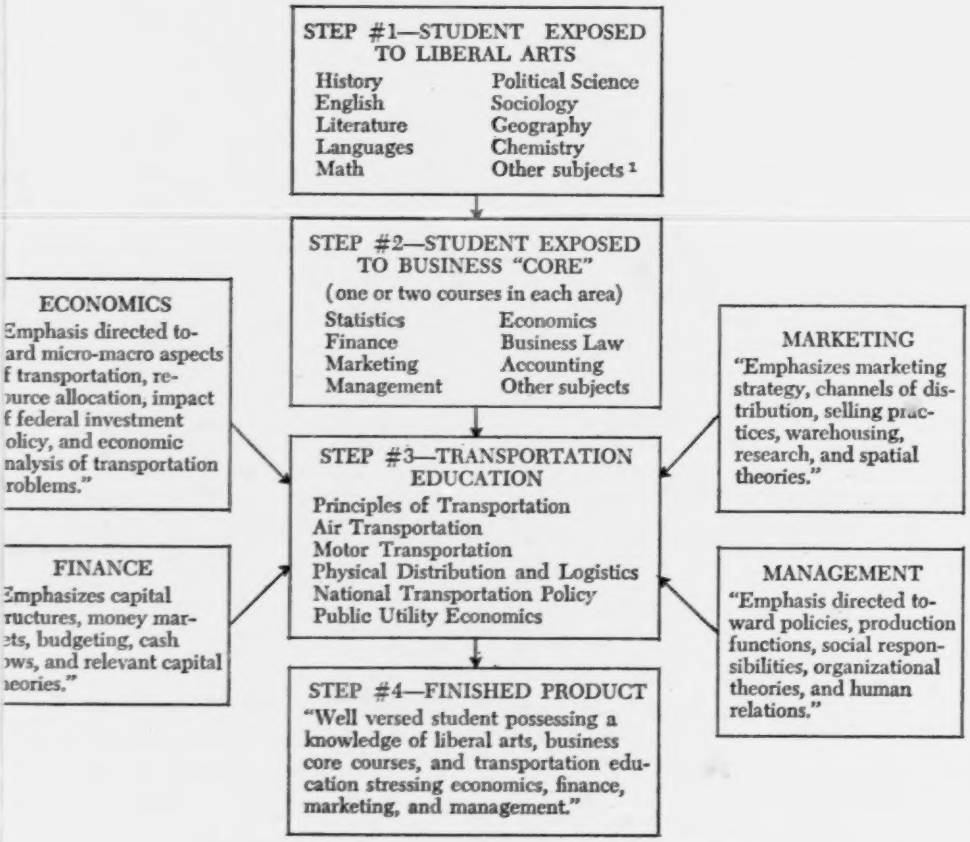
The Railway Carloading Freight Bill Sample, conducted for many years by the Interstate Commerce Commission and now under the direction of the Department of Transportation, further compliments the census report but on a single modal basic. The regulated general commodity motor carriers of this state, conducting both inter and intrastate activity, participate in extensive traffic and flow studies through their respective rate-making associations.

The scope and magnitude of transport activities as measured by investments, sales, employees, etc. are commercially available through Dun and

Bradstreet, Inc.'s publication *Dun's Market Identifiers*. Information about the other segments of the state's economy are also available through the above publication.

The research should also discuss prospective levels of population and employment and of the various components of the economic structure—manufacturing, wholesaling, retailing, and related service industries. Further, the research should consider separately the movement of goods and the movement of people. These two primary components of the overall transportation picture are inter-related, for most forms of transportation involve the movement of both people and goods, particularly in terminal facilities where the demands for the accommodation of passenger and freight together constitute the total terminal demands. Finally, data available from the various planning commissions and state offices dealing with the transportation spectrum (Public Service Commission, State Highway Department, Revenue Department, etc.) must also be considered as basic input.

In a study of this nature dealing with intrastate activity, it is important that the proper emphasis also be given


STEP #1—STUDENT EXPOSED TO LIBERAL ARTS
History
English
Literature
Languages
Math
Political Science
Sociology
Geography
Chemistry
Other subjects [1]
STEP #2—STUDENT EXPOSED TO BUSINESS "CORE"
(one or two courses in each area)
Statistics
Finance
Marketing
Management
Economics
Business Law
Accounting
Other subjects
ECONOMICS
FINANCE
MARKETING
MANAGEMENT
STEP #3—TRANSPORTATION EDUCATION
Principles of Transportation
Air Transportation
Motor Transportation
Physical Distribution and Logistics
National Transportation Policy
Public Utility Economics
STEP #4—FINISHED PRODUCT

Emphasis directed to-
ard micro-macro aspects
f transportation, re-
ource allocation, impact
f federal investment
olicy, and economic
nalysis of transportation
roblems."

Emphasizes capital
ructures, money mar-
ts, budgeting, cash
ows, and relevant capital
eories."

"Emphasizes marketing strategy, channels of distribution, selling practices, warehousing, research, and spatial theories."

"Emphasis directed toward policies, production functions, social responsibilities, organizational theories, and human relations."

"Well versed student possessing a knowledge of liberal arts, business core courses, and transportation education stressing economics, finance, marketing, and management."

Figure 1 Flow Chart for Transportation Education

to the interstate implications of transportation. Georgia's transportation network will be influenced greatly by adjoining states and by South Atlantic port activity. Provincialism must be avoided if such a study is to be meaningful.

Educational Needs And Activities

With basic knowledge available to project transport activity to 1985 by all modes, at a given level of employment and further stratified by type and nature, the educational needs of this segment of the economy can be developed. The most concise study ever attempted in this area was completed in 1965 by the Battelle Memorial Institute.[2] This study sponsored by the American Society of Traffic and Transportation, which functions as the industry's professional certification body, comprehensively projected the transportation educational needs of the nation. Since publication of this report, transportation educators working in this area and consulting with not only transportation firms but with manufacturing concerns to whom transportation and distribution costs play a major role in the marketing of their products, have evolved an inter-disciplinary curriculum which could form the basis of higher transportation education. Figure 1 is a flow chart showing the inter-disciplinary approach to transportation education.

In the elementary educational field, the Racine, Wis. School District Project has many implications which should be considered. Basically, it recognizes that transportation is the economic linking function to the entire social studies field and has completed a pilot project at the elementary school level under the guidance and leadership of the Delta Nu Alpha, National Transportation Fraternity. Instruction booklets are now in process of development.

A recent report by Dr. Margaret Blair, Director of Vocational Education for New Jersey, reported progress in their efforts at the introduction of a transportation curriculum at the ninth grade level.

In the Atlanta area there are numerous vocational and adult educational efforts in transportation. Most recently the Georgia Motor Trucking Association inaugurated an evening school curriculum on not only transportation courses, but also along the inter-disciplinary approach. The O'Keefe High School courses have for many years been the mainstay of this type of educational attainment. These efforts are particularly important to those businesses seeking transportation-oriented employees. Faced with the realization that not all of the present or future gainfully employed members of our society will be exposed to higher educational opportunities, the need for knowledge, specific of the industry, and general of the economy, is a critical area of educational needs that must not be overlooked.

Footnotes

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critique:

Transportation in Georgia

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THE position paper by Dr. Forbes on "Transportation in Georgia" was read with a great deal of interest from the viewpoint of one who is a manager of one of the transportation modes. In preparing the critique, I found myself agreeing with many of his findings and disagreeing with others.

The need for a coordinated statewide transportation policy as voiced by Dr. Forbes is of daily concern to transportation managers at the state level. At present, this concern cannot be translated into action to prepare a policy containing transportation goals and establishing procedures through which these goals may be achieved. The organization of state government does not contain one single agency or department that is responsible for planning, implementing or even coordinating activities of all forms of transportation in Georgia.

In the field of airport planning and construction, the State Planning Bureau is responsible for generalized planning of a statewide airport system. The Department of Industry and Trade is responsible for coordination with local officials and with the Federal Aviation Agency to determine standards and design for a new airport or addition to an existing one. In the case of metropolitan airports, local officials normally perform the coordination with the FAA. If any state financing is forthcoming, the Legislature includes as a *line item* in an Appropriation Bill funds for the state's share of the construction cost. State funds are then transferred to the State Highway Department for a contract letting or for payment if the contract is let locally. The Highway Department cannot utilize motor fuel tax revenues to construct, inspect, or supervise construction of airports. The Department, through a statute permitting cooperation with local governments, does supervise consultant engineers employed locally.

In the field of urban mass transit there is no state agency or department with any responsibility for planning or implementation even though the state is authorized by statute to pay five percent annually toward the cost of construction of an Atlanta rapid transit system.

It is not expected that this disjointed transportation picture will continue. The draft of the proposed new state constitution would change the name of the Highway Department to the Department of Highways and Transportation and provide authority for the Legislature to establish by legislative act new divisions of the department to plan, construct, and/or coordinate all forms of transportation. If this proposal is adopted by both the Legislature and the people, the formulation of a state transportation policy could then become a reality.

In Dr. Forbes' discussion of financial disparities in relation to transportation problems, he failed to mention the most important of the financial disparities—lack of funds for both capital investments and operations. This applies to both public and private transportation modes. With sufficient capital, most of the transportation problems in Georgia could be solved.

The results of the comprehensive transportation study of Atlanta (Atlanta Area Transportation Study) re-emphasized the need for a rapid transit system. The system recommended was a combination of rail and exclusive busways. The system could have been monorail, aircars, cars in a tube powered by compressed air, or any other exotic facility to move people. The point is, the type system makes no difference since, at present, there is no financing available. If any system is to be constructed, the only existing plan for financing is a referendum in which the people will be asked to vote to increase their property

A referendum for this purpose in November 1968, was soundly defeated. Unless some other means of financing can be devised, it will be most difficult to convince the people that rapid transit should be financed by increasing their property tax burden.

The general public is of the opinion that highways are financed by a "horn of plenty." Little do they realize that each year the Highway Department needs an additional $34 million just to meet basic needs of the traveling public—not desires. With inflation, the amount of this deficit increases each year. This is another part of the explanation of why highway departments are not overly interested in experimenting with city development.

The Atlanta Transit System is faced with financial difficulties as are other privately owned transit systems. I agree with Dr. Forbes that transit fares should be exempt from the three percent sales tax. While he did not mention it, I feel that the Atlanta Transit System should not be required by Atlanta to pay a three percent tax on gross receipts. If the gross receipts are not exempted, the city should subsidize the transit system by at least this amount. I do not believe that fuels used by buses on public highways and streets should be exempt from motor fuel taxes. These taxes are the only funds available for construction and maintenance of these facilities. The total amount paid is directly proportional to the total amount of use.

The discussion of technology and product availability was most interesting although I must take exception to certain statements. The question was posed to why airlines or airframe manufacturers are not required to furnish complete terminal facilities. While I know of no case in which complete terminal facilities have been furnished, it is proposed in Atlanta that the airlines pay a large part of the planned expansion of the Municipal Airport.

No exception is taken to the discussion on urban rapid transit and the failure to develop totally new transit systems. The fault does not lie with the equipment manufacturers since the equipment and techniques are available. The fault, if it is a fault, lies totally with local officials and conservative citizens who have no desire to expend public funds in tremendous amounts on experiments with untried equipment and procedures.

The Director of the Research Division of one of the major automobile manufacturers recently stated that the automobile, 20 years in the future, will be little changed from the one of today. This prediction was not based on technology but on the desire of the conservative, slow-to-change American public. Any major change in the automobile, either for safety or new power plants to decrease air pollution, will probably be the result of federal legislation. This is due mainly to the tooling costs of major changes, the profit motive of the industry, the competition between manufacturers, and what the public wants or is willing to accept.

There is no doubt that transportation of the future will be the result of "managed" gradual change. A drastic change in transportation during a five to 10 year period would either stop practically all commerce within the nation or require the massive expenditure of funds, both public and private, if commerce were to continue or necessitate the waste of a tremendous public and private investment. As an example, the average life of an automobile is 10 years and a truck approximately 15 years. A mandatory change in power plants would then require 10 and 15 years, respectively, for the vehicles to be so equipped without massive expenditure of funds. Equipment is now available that would permit the automatic steering, stopping, etc., of automobiles by means of a cable buried in the roadway. The costs of installing the cable and necessary equipment on all motor vehicles would be staggering. Existing public and private investment in all forms of transportation dictates that all major changes will be gradual.

Dr. Forbes' discussion of the role of transportation was made from the viewpoint of a city planner. It is an excellent statement of the philosophical differences between transportation and city planners. The city planner believes that transportation should be used to develop a city while a transportation planner believes that it should be used for the movement of people and goods. City growth or development is a secondary or fringe benefit to the transportation planner. Also, monies are not available to construct a developmental system. The accusation is intimated that transportation planners are obsessed with an attempt to provide service. Transportation planners, particularly highway planners, are not happy with this role in its entirety. Consideration must be given to the motorists first since he pays for the total highway program through motor fuel taxes. In most instances, joint consideration could be given for service to motorists and to promote orderly and planned city growth—IF a city plan exists, IF the plan has been approved by local officials and the people, and most of all, IF the local officials will force the development of the city, according to the plan, by controlling zoning and the issuance of building permits. The job of the transportation planner would be much easier if all of these *ifs* were facts. Highways are designed to carry traffic expected to use the completed facility. Land use, existing and future, determines the corridor traffic that will be generated. Changes in the land use plan invariably occur after highway construction is completed which result in the highway operating above its design traffic capacity. A case in point is the Atlanta Freeway System. The answer to this dilemma is not planning—either city or transportation. If transportation systems are to result in orderly, planned city growth and are to provide efficient travel for its citizens, the public must be made aware of the problems through education. Officials, with sufficient foresight, must be elected who will demand that a plan be prepared, adopted and then utilized for the orderly growth of the city. They must have adequate intestinal fortitude in order to resist economic and political pressures for major change of this adopted plan. Their actions must not be governed by the necessity of getting elected again next term. Their actions should be governed by what is best for the majority of their constituents in the long run.

One other point should be made concerning the cooperation between city and transportation planners. The transportation planners prefer to cooperate with cities having plans for growth and development. Too often, after beginning work in a city having such a plan, the city planner who prepared it moves to another city. The individual employed as a replacement then disagrees with the accepted plan which starts a new ballgame.

Dr. Forbes forecasts little change in transportation in the next 10 to 15 years. Therefore, based on this forecast, he states that transportation will have little impact on the educational system of the state. I must take exception to these statements. Transportation has a daily impact on education in Georgia. Road networks throughout the state provide easy access to all schools. Good roads have made possible school consolidations in the past and will continue to do so in the future. Existing road systems would permit consolidation of several county school systems into one better system to provide a higher standard of education if the political climate were favorable in the local systems. The growth of the junior college system is living proof of the impact of transportation. The construction of junior colleges for day students commuting from surrounding counties has been made possible only through the availability of good roads. Transportation in the near future may not include the exotic systems discussed by Dr. Forbes but the construction of each new road, be it freeway or farm-to-market, will have an impact on education in Georgia.

I do not agree that the role of education is to condition students to accept change joyfully. I believe that its role is to explore and identify the ingredients which will result in a better society—not to impose irrational ideas or systems on an unwilling society. People will usually change their way of life when it becomes necessary but are unwilling to do so when they are not convinced it is a necessity.

It is encumbent upon education in the training of engineers to provide to the student both the basic tools of engineering and the stimuli to their imagination so that transportation in the future will not be a glorified reproduction of today's transportation systems. Educators should not stress the design or construction of a particular kind of system. Instead, they should teach more of the economics of transportation of people and goods and the need for more efficient systems.

I think there is reason for optimism today, probably more so than at any time in the history of mankind.

Manpower and Employment in Georgia

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MANPOWER in the Georgia economy is growing in size and also in quality of the work force. Population growth during 1960-68 was larger by 70 percent than during 1950-60. In the decade 1975-85 it is expected that population growth will accelerate further, providing an annual increment to Georgia's population of 108,000, or 39 percent higher than during 1960-68.

Approximately 37.6 percent of the state's population is in the civilian labor force. Expected population growth during 1975-85 should provide 40,500 new workers yearly looking for jobs, with net unemployment of 1,500 or 3.7 percent; the net job growth will therefore be 39,000 yearly.

Two distortions in the state's population aggregate exist, from the low birth rates of the period 1930-45 and from post WWII nigh birth rates during 1946-59. The low birth rates of 1930-45 produced a deficiency of 25 percent which is reflected in age class 25-40; the high birth rates of 1946-59 are associated with a significantly higher entry rate for workers in age class 16-19 than usual. On the one hand, the Georgia economy must cope with a scarcity of managerial, skilled, and related personnel in age class 25-40, and on the other hand with a more than normal number of inexperienced workers entering the labor force for the first time.

The ratio of men in the labor force is normally double that for women. But entry of women into the labor force during 1960-70 exceeded slightly the number of men and entry of females may be almost as many as men during 1970-80. The result will be a substantial gain in the labor force in number of women relative to men.

Quality of labor force is a function of education and training. Comparative statistics, based on the 1960 Census of Population, indicate that the median level of education of the Georgia population is 17 percent below that for the nation. Workers of the white race in Georgia have 70 percent higher level of education than nonwhites. But there were for both races in Georgia in 1960 approximately 350,000 adults 25 years of age or older who were classified as functional illiterates with less than a fifth grade education.

Employment of the work force represents economic use of the productive capacity of the population in the Georgia economy. Productive use of the labor force in output meets the goal of the state for economic growth. For the worker, the ability to participate in production entitles him or her to a claim against output as income which is the basis of spending by income units to gain a certain goal in the standard of living.

In April 1967, there were 1,680,400 workers employed in the Georgia economy. One worker in 20 was in agriculture and almost one worker in 20 was employed in construction. Agriculture is a declining industry, while construction will be a rapidly growing industry during the next two decades. Almost one worker in four was employed in manufacturing, while two jobs in three were in trade and services including government, transportation, and public utilities. Trade and services are expected to be the fastest growing category in the Georgia economy in the period ahead. Manufacturing will expand at a slower rate of growth and will probably not maintain its position of one-fourth of the jobs in Georgia.

The net job creation yearly of 39,000 jobs, required to absorb population growth during 1975-85, will be expanded by 2.5 times in order to cover also the 60,400 vacancies yearly caused by death and retirement of workers. Total job openings yearly will therefore be 99,400.

Yearly job openings for white collar occupations are estimated at 51,400 during 1975-85 and job openings yearly for blue collar occupations, 48,000. The ratio of total jobs available for blue collar occupations is expected to decline during 1975-85 due to an absolute decline in number of jobs available for laborers and for agricultural workers. For all classes of occupations job openings will be most numerous in (1) service occupations, including domestic household, (2) professional and technical, and (3) clerical and kindred.

Distribution of occupations by race and sex indicates that 41 percent of white males are employed in professional and technical occupations and as semiskilled production line workers, 50 percent of nonwhite males as laborers and operatives and kindred occupational classes, 56 percent of white females as clerical and operatives, and 71 percent of nonwhite females are employed in private household types of occupations and as service workers.

Unemployment represents failure of the economic system to utilize human resources in the production process. It also indicates failure on the part of the worker to achieve an independent, productive life, achieving personal goals of income and standard of living. In 1967, 53,000 or three percent of the Georgia labor force was unemployed and failed in terms of desirable economic standards.

In addition to the specific and measurable unemployed, there exist in Georgia even more serious problems regarding under-utilization of labor resources. An estimated 380,000 job holders work less than halftime during a typical year. In addition there are 100,000 unidentified unemployed, those workers who have withdrawn from the labor force from discouragement over finding any job at all. Also an unknown number, but, it is believed, a highly significant number of individuals are occupying jobs which do not properly or efficiently utilize their training or skills capacity as workers.

Differentials in unemployment reflect factors of location, race, sex, and age. The 1960 Census of Population shows that rural farm areas have lowest unemployment rates but probably relatively high under-utilization of workers and unidentified unemployed. Rural nonfarm areas have higher unemployment ratios than urban centers which are dynamic and rapidly growing by and large. Yet slum or poverty areas in large cities have the highest unemployment rates of all. Nine poverty areas of the 12 identified in Atlanta in a 1966 survey had 25 percent unemployment and 29 percent part-time employment.

Compared to the Georgia economy as a whole, males have 13 percent lower unemployment, but females have 22 percent higher unemployment. The ratio of unemployment among nonwhite males exceeds the state ratio by 40 percent and nonwhite females by 55 percent.

Variations of unemployment ratios by age show the highest ratio for age class 14-19, 2.5 times that for the state. In this age class white males have an unemployment rate twice the state aggregate ratio, white females 2.3 times, nonwhite males 2.2 times, and nonwhite females 3.3 times.

Output of trained workers against demand reflects the performance of colleges and vocational schools relative to the needs of the state. In 1966-67 Georgia colleges graduated 8,800 plus 2,500 with advanced degrees. The job vacancies against which this output may be assessed are 60 percent of the 18,200 job openings yearly expected during 1975-85 in professional and technical occupations plus perhaps a portion of the 8,000 job vacancies yearly for proprietors, officials, and managers.

Area vocational-technical schools graduated 4,454 during 1966-67 and there were 15,725 graduates from vocational programs in secondary schools. All have vocational skills for the job market and the total supply of these trained high school youth should be measured against total demand anticipated in the following occupations: 17,000 job openings yearly during 1975-85 in clerical and kindred types of occupations; 8,200 job openings yearly in sales; and 6,200 job openings yearly for craftsmen and foremen plus a substantial number perhaps of the 23,700 job openings yearly for service workers, many of whom are in the health and related occupations.

The impact of vocational skills on the job market is vividly reflected by variations in unemployment ratios of workers with vocational skills compared to those without vocational skills. According to data from the Georgia Department of Education and the U. S. Office of Education for 1966-67, graduates of area vocational-technical schools had an unemployment ratio of only 1.7 percent and from vocational programs in secondary schools, 2.5 percent, compared to an unemployment ratio of 14.2 percent for high school graduates and 18 percent for high school dropouts.

The State of Georgia graduated 55,000 from high school in 1966-67, of whom roughly half went to college, leaving 27,000 without a vocational skill. There were also 20,000 high school dropouts, and another 30,000 from public schools discontinued schooling between grades. Against this total of approximately 50,000 failures from school may be compared an estimated 85,000 openings yearly for basic entry jobs in the Georgia economy, half of which openings can be filled by persons with less than a high school education, often eighth grade or less. But in order to fill basic entry jobs satisfactorily the worker must have basic education or the eighth grade level at least, possess communication skills, ability to get along with fellow workers, have satisfactory job attitudes, and ability to manage personal affairs in a complex world. Job requirements for this large number of workers, who could be made successful workers and could expect to move up the job ladder through company training programs, can be met only if public education will provide a program of general education for the world of work parallel to academic education which is preparatory for college entrance requirements. Exploration of the world of work and careers beginning preferably at the seventh grade should be offered to reinforce the program of general education for the world of work in order to provide motivation for continuation in school.

The Georgia economy has 100,000 handicapped, 100,000 unidentified unemployed, and perhaps 380,000 partially employed. All need special programs of training, job placement, and counseling to assure job success as well as personal success. The National Alliance of Businessmen's 1968 plan, which is continuing, was based on direct and immediate placement of the "hard-core unemployed" (which fits most of the above classes) directly into a basic entry job. The worker was oriented to the job and trained to its requirements by a trustworthy and highly qualified worker who, acting as a coach, trained the hard-core employees in job skills, communication skills, goals of the company, and also acted on the side as a personal counselor.

Industry has important training programs designed not only to integrate new employees into company work practices and goals, but also to provide training to assist advancement of workers up the career ladder, so necessary to gain high efficiency and maintain morale of the work force. For each dollar spent by education at every level, companies in the United States spend 50 cents on all types of training programs, from programs for workers in basic entry jobs to executive development programs. There is a serious problem of communication between industry and education on how best to coordinate education in the public institutions with training in industry. This is a new frontier which needs to be penetrated in order to gain many of the objectives outlined in this paper.

MANPOWER reflects human resources; employment means utilization of human resources. Manpower includes the concept of total population and labor force participation. While labor force as an economic resource is an important factor of production, quality of labor force constitutes the focus of interest in economic development. This reflects on the entire educational system and training programs provided both by the public and also by private industry. But mere growth of population and labor force without sufficient economic growth to provide jobs, particularly good paying jobs, leads to population pressure against limited resources, inadequate output, and social unrest. Consequently, discussion of this topic leads to a consideration of the supply factors of labor against the demand conditions for labor in the economy.

Manpower

Population Growth

Population growth in Georgia, at a very slow rate from 1930 to 1950, accelerated slightly from 1950-60 and has shown a significant pick-up in the rate of growth since 1960, as the following figures indicate.

Year	Census Count	Growth for Period (in millions)	Yearly Increase
1930 . .	2,908	——	——
1940 . .	3,124	216	22
1950 . .	3,445	321	32
1960 . .	3,943	498	50
1968 . .	4,568	625	78
Projections			
1975 . .	5,271	703	100
1985 . .	6,351	1,080	108

The growth rate of population from 1960-68, converted to a yearly growth rate basis, was 70 percent greater than during 1950-60, and the expected growth during 1975-85 shows a further acceleration of 39 percent over 1960-68. Population growth means labor force growth which parallels growth in the economy. Growth in the economy and, of course, relatively more jobs mean that a higher percentage of the natural increase has been kept in Georgia, or in other words, out-migration has been reduced. In the period 1950-60, Georgia lost 30 percent of natural increase by out-migration; in the period 1975-85,[1] projections assume some in-migration. Another factor associated with rapid population increase has been the fast growth of the large urban centers in Georgia, such as Atlanta, Savannah, Augusta, Macon, and Columbus. During 1950-60, these centers accounted for 95 percent of the state's population growth.

Urban centers are not only generators of economic growth and therefore major sources of jobs, they also give rise to a broad cross-section of economic activities, with major emphasis on trade, finance, and service types of businesses. In contrast, rural territories suffered a loss of 122,000 population during 1950-60. The projected total population for Georgia in 1985 is 6,351,000, representing an annual increase of 108,000 from 1975. It is expected that large urban centers will account for about 60 percent of the state's growth during 1975-85.

During the depression era, 1930 to 1941, and also during WWII birth rates were off 25 percent. Consequently, there is a 15-year trough, or an extended low formation, moving over time not only through the state's population but also through that of the nation. In 1965 the 16-19 age group nationally was almost 40 percent larger, relatively, than other age classes. On the other hand, the 25-40 age group was comparatively small relative to other age groups. These distortions in the population age groups will cause a relatively large supply of labor in the 16-19 age group for several years ahead as that group moves through the population aggregate. On the other hand, the 25-40 age group is already producing a relative scarcity of highly competent persons for middle management, and this will continue for perhaps a decade. Since 1965, the younger age group has also produced a relatively large number of students in college. While this bulge so far as colleges are concerned will disappear about 1970, a higher percentage of high school graduates wanting a college education will continue the rising trend of college enrollments.

Labor Force

Labor force consists of all those persons in the population, 14 years of age or older, according to the U. S. Bureau of Census, who are employed or who are actively seeking a job. In 1960 the labor force in Georgia was enumerated as 1,516,000,[2] a ratio to total population of 38.2 percent (37.6 ratio for the civilian labor force). The ratio of the male population in the labor force was 51.4 percent and for females, 26.2 percent. Thus, the labor force ratio for males is double that for females, and this ratio rises until age class 25-34 for males, which has a labor force participation ratio of 94.1 percent. The female labor force participation ratio rises until age class 35-44, which shows a ratio of 49.4 percent. In recent years the labor force participation ratio for females has shown a rising trend due to increase in clerical and sales jobs which have a prime attraction for women. Another factor is that rising educational level of females and prosperous conditions have been factors attracting more than a usual number into the labor force. Statistics from the Manpower Report of the President for 1969[3] indicate for the decade 1960-70 a rise of 5.7 million women entering the labor force compared to 5.1 million for men, both figures for the United States. For the decade 1970-80 the expectation is for entry of an additional 5.3 million females and 7.6 million males nationally. The conclusion, therefore, is that increase in size of female labor force in current and future decades will reduce sharply the male-female labor force participation differential. While the specific figures cited above pertain to the nation, similar trends toward relatively more females in the labor force in Georgia are also indicated.

The significance of the age and sex distribution of the labor force is related to quality of the labor force. The relative rise of females in the labor force means a larger supply of workers for clerical, sales, and service types of jobs. The large bulge of youthful persons entering the labor force from high post WWII birth rates magnifies the importance of education fortified by vocational training not only to the job placement process but also in terms of demands in the economy for an increasing number of trained workers with proper job attitudes. Greater emphasis will need to be given to the training requirements of youth and also to the somewhat more specialized training needs of females.

Productivity

The ability to produce output is a key factor not only in the utilization of workers, but it is also a very important factor influencing economic development and rapidity of economic growth between nations and also between regions or areas within a nation. The ability of workers to produce is one of the basic factors, along with capital investment per worker, determining level of income and the standard of living of a population. The Manpower Report of the President[4] provides the following estimates of productivity for broad industrial categories.

	Yearly Percent Increase in Output Per Manhour 1960-61	1967-68
Nonagricultural industries		
Manufacturing	2.3	2.8
Nonmanufacturing	3.4	3.7
Agriculture	7.9	0.7[a]
Composite	3.4	3.3

[a] Long term average is about 6%

A composite yearly gain in productivity of 3.3 percent per manhour permits an equivalent wage increase without inflation, accompanied by a parallel rise in purchasing power and in standard of living, a major aim of democracies in the western world. It is noted that highest gains in productivity have occurred in agriculture where major emphasis is placed on scientific investigation with application of the results to production technology. In agriculture and manufacturing, heavy outlays on research and development usually lead to a rising ratio of capital investment per worker.

Development of People Through Education

A highly important consideration in promoting labor productivity and a rapidly growing and prosperous economy are educational outlays on human development. Properly implemented, human resources development leads not only to a more productive labor force but also to a citizenry which is more capable of participating in the democratic process.

The educational attainment of adults 25 years of age or over in Georgia, as reported in the 1960 Census of Population, is shown in the following table.

Years of Schooling Completed	White Number	White Percent	Nonwhite Number	Nonwhite Percent
Zero	23,907	1.6	42,761	8.5
1-4 years	131,271	8.7	157,314	31.3
5-8 years	463,330	30.7	183,500	36.4
High School				
1-3 years	306,955	20.3	61,840	12.3
4 years	336,329	22.3	35,056	7.0
College				
1-3 years	136,368	9.0	10,451	2.1
4 years	113,135	7.5	12,634	2.5
TOTAL	1,511,295	100.1	503,556	100.0
Median years of schooling	10.3		6.1	

Over three-fourths of nonwhites had less than an eighth grade education in 1960; 40 percent of whites had less than an eighth grade education. Almost 10 percent of whites had less than a fifth grade education, the level that is classified as functionally illiterate. This compares to 40 percent for nonwhites. What can one really do for people who have less than a fifth grade education? They are capable of holding only the simple, menial types of jobs. And the tragic part is that 355,000 fall in this class. Based on national ratios for 1967, there are an estimated 60,000 functional illiterates currently holding jobs in Georgia; another 330,000 have an educational level between the fifth and eighth grades.

While the white race is comparatively better off in literacy, the educational level as reported above reflects a very poor and inadequate development of Georgia's most important resource. Overall, nonwhites are only 60 percent as well prepared for the world of work as whites. The composite median years of schooling completed for all adults in Georgia, irrespective of race, in 1960 was 9.0 years. This means that education in Georgia lags that of the nation by 1.5 years of schooling, or 17 percent.

Numerous studies have shown that the earnings level rises more than proportionately with the level of education of working adults. In Georgia in 1960, one year of schooling for males added $400 yearly to income: for females the yearly increment from one additional year of schooling was $250. Research by the author during the mid-1950's on the returns from annual outlays on education indicates that there is a 16 percent return on the annual investment in education for Georgia.[5]

Employment

Industrial Trends

The variety and numbers of jobs in an economy reflect the ability and the interest of the population to participate in the economy as producers adding to output and as consumers helping to utilize output through the wages that have been earned as contributions to production. A Georgia Department of Labor Report[6] shows 1,680,400 employed from the civilian labor force, as of April 1967. On the basis of these data, one worker in 20 is employed in agriculture, almost one worker in 20 in construction, one worker in four in manufacturing, and two workers in three are employed in trade, finance, government, utilities, and services. Projections of the Georgia economy indicate significantly fewer jobs in agriculture, relatively fewer in manufacturing, although a larger number absolutely, and a significantly larger number in services, including wholesale and retail trade, finance, government, and miscellaneous services. Transportation and public utilities may be expected to show only an average rate of gain in jobs. Chart I depicts these changes graphically for the nation. While the general trends in Georgia are such that the state's economy over time will become more like that of the nation compositely, the changes shown in the chart in terms of relative growth rates are considered to apply to Georgia.

The conclusion is that the trend is toward types of industries producing tangible services and away from output of material things. Construction is a growing activity of considerable consequence from the standpoint of training needs because of the great need for housing as a result of the relatively large number of young people entering the labor force and forming families, an impact directly from the post World War II high birth rates. Aside from housing which involves a tangible of some import, the big emphasis on job preparation will, therefore, be on imparting the ability to deal with and satisfy people.

Occupational Trends

Occupational change in an economy is an indication of the demand by industry for workers of a certain level of sophistication in science and technology, management, customer service, community and business services. It also reflects the ability of workers to tolerate simple routine types of activities in factory, store, or service establishments. Analysis of the employment patterns in Georgia by occupational distribution indicates a shift toward the professional and technical occupations, service workers, and clerical and kindred types of occupations. Occupations showing a lesser rate of relative gain will be managers, officials and proprietors, and sales workers. Craftsmen and foremen and operatives and kindred workers will lose some ground relatively but will continue to show yearly gains in the number of jobs absolutely. Laborers are expected to decline slightly in number of jobs while agricultural workers will decline strongly.

Chart II pictures the relative growth of broad occupational categories in the nation's economy. The chart is useful for analysis in providing a frame of reference for the strength of trends that are developing. Table A portrays the trends in occupations in two broad categories "White Collar" and "Blue Collar" occupations. The white collar occupations will show relatively the greater rate of gain. The blue collar occupations are in general shrinking in importance except for the category, "Service Workers including Household," which is expected to grow both relatively and in absolute numbers in the years ahead. Considering all occupations together, it is expected that the following occupations will be the largest gainers in relative importance.

Professional and technical
Clerical and kindred
Service workers

Projection of Job Openings Yearly By Occupations, 1975-85

Distribution of employment to occupations is useful in getting a picture of the economy relative to the yearly number of jobs available. Such a picture shows the potentials of the job market and the demand for training and education. Estimates of number of jobs open yearly and the sources of these jobs are of specific value for both purposes. Estimates have been prepared by applying the ratios in Table A to the net growth of jobs projected for the Georgia economy for 1970-75 and for 1975-85. The results are presented in Table B. The total number of jobs created yearly by growth of the Georgia economy is estimated at 34,200 during 1970-75; for 1975-85 the yearly number of jobs created is projected at 39,000.

From the standpoint of impact on the work force, education and training, we need to consider along with net growth requirements for trained workers, the replacement requirements for workers who die or retire. Based on national coefficients the replacement needs are 1.55 for each new job required in the aggregate to maintain growth of the economy. Replacement needs, however, vary greatly among occupations. Calculations of total labor requirements by occupations for Georgia, including both the need for labor to support the expected growth of the economy and also for replacement of workers who will leave the job market due to death and also from retirement, are provided for 1975-85 in Table C. It is noted that total replacement requirements are expected to be 60,400 jobs yearly and the new job openings from growth in the economy, 39,000 jobs yearly. These two figures give an estimate of 99,400 jobs yearly which will need to be filled by new entrants into the labor force in Georgia or from in-migration of workers. The size of the training job is equally impressive. For the professional and technical occupations the estimated job vacancies will be 18,200 yearly; clerical and kindred occupations show 17,000 vacancies yearly for the period 1975-85. There will be a need for 23,700 service workers yearly, including private household, and these along with operatives or production line workers with 15,300 job vacancies yearly will require a good basic education plus job attitudes for the world of work. Note that the net vacancies for both classes of laborers are expected to be only 2,800 jobs yearly, which connotes serious forebodings for school dropouts and those with poor education.

Relationships of Educational Level to Occupations

In terms of how educational level relates to various occupational categories provided in Table C, a 1962 study of this factor by Henneman and Yoder[7] is of the greatest possible significance for education and training requirements. They found that there exists an occupational hierarchy in terms of education as follows.

1. The average professional and technical worker had at least a college degree.
2. The average clerical worker, sales worker, manager, and proprietor had at least a high school degree.
3. The average service worker, semi-skilled operative, craftsman, and foreman had some high school education.
4. The average laborer, farmer, and domestic had only elementary school training or less (eighth grade or below).

Yet workers with less than a high school education were holding a certain number of jobs in each occupational category, apparently by virtue of promotion on-the-job, in all occupational classes in 1967, according to studies by the U. S. Department of Labor and reported in Manpower Report Number 13.[8]

Occupational Category	Percentage of Workers Holding Jobs in United States with Less than a High School Education in 1967
Professional and technical	4.0
Managers, officials, and proprietors	25.0
Clerical workers	17.4
Sales workers	27.6
Craftsmen and foremen	50.2
Operatives	61.1
Private household workers	76.0
Service workers	54.6
Agricultural workers	73.1
Farmers and farm managers	64.1
Nonfarm laborers	71.2
Total	39.0

In a total national employment in 1967 of 70,570,000, there were 27,552,000 jobs held by workers with less than a high school education. The ratio is about two in five, resulting from extensive on-the-job training and serious application of workers to the requirements of the job. The least opportunities for workers to take jobs with low educational level and work themselves up the ladder are in professional and technical (4 percent), clerical workers (17.4 percent), managers and proprietors (25 percent), and sales workers (27.6 percent). In the other occupations, where such workers have found that jobs exist, they have one out of two jobs, but, except for craftsmen, the technical skills are not very sophisticated. It is encouraging that there is opportunity, or at least there has been in the past, for those who have not been able to finish high school or college. The problem here is the need for communication skills, ability to relate, and job attitudes. It is believed that opportunities of this sort will be somewhat lessened in the future because of the increasingly technical nature of work or requirements for special talent or training to please customers and the public.

Occupations by Sex and Race

Analysis of occupations in Georgia based on the 1960 Census of Population, in order to determine the highest four occupations by race and sex, produced the following results.

Occupational Category	Percentage of Total Employment Represented by Each Class in 1960
MALES	
White	
1. Operatives and kindred workers	21
2. Craftsmen, foremen, etc.	20
3. Managers, officials, and proprietors	14
4. Professional and technical	9
Nonwhite	
1. Laborers	25
2. Operatives and kindred	25
3. Craftsmen, foremen, etc.	8
4. Service workers	6
FEMALES	
White	
1. Clerical and kindred	31
2. Operatives and kindred	25
3. Professional and technical	13
4. Service workers	8
Nonwhite	
1. Private household	52
2. Service workers	19
3. Professional and technical	7
4. Farm laborers	5

The top four occupations accounted for 64 percent of jobs for white males, 64 percent of the jobs for nonwhite males, 77 percent of the jobs for white females, and 83 percent of the jobs for nonwhite females. The data show that both classes of female workers tend to be heavily concentrated in two occupations: white females, clerical and operatives; and nonwhite females, private households and service workers. When either class of females gets highly trained in college, they concentrate in professional and technical occupations, with teaching being the major occupation for both. In the case of males, concentration of jobs occurs at the point where either a degree of skill is required in the case of whites or little or no skills in the case of nonwhites. White males find major job outlets as semiskilled workers on the production line or as craftsmen, while nonwhite males find chief job outlets in those occupations requiring a much lower degree of skill, i.e., as semi-skilled production line workers or as laborers.

Basic Entry Jobs

An important aspect of the job market everywhere, particularly with respect to jobs for high school dropouts and even some high school graduates who do not have specific vocational skills, is basic entry jobs. Basic entry jobs are the jobs at the lowest starting point on the job ladder in four major areas of employment in business enterprise. They are clerical and office; plant, factory, or operations; maintenance mechanics; and janitors and waitresses. The typical types of jobs found in each of these categories are as follows.

Office and clerical	Clerk, clerk-typist, and stenographer
Plant, factory, or operations	Laborer, helper, trainee, tray handler and stock clerk
Maintenance mechanics	Journeyman worker, apprentice and trainee
Janitors and[a] waitresses	Helper, orderly, but more frequently hired directly for either class

[a] No relationship really, but a catch-all class.

Based on the ratios of basic entry jobs to total employment established in a 1967 Manpower Survey in Louisville, Kentucky,[9] the estimated total number of basic entry jobs in Georgia is estimated in the following table.

Category	Ratio to Total Employment	Illustrative Projection of Number of Basic Entry Jobs for Georgia
Clerical and office	1.0	13,400
Plant, factory or operations	4.9	62,700
Maintenance mechanics	0.4	4,600
Janitors and waitresses	0.3	4,800
	6.6	85,500

Hiring criteria for basic entry jobs vary with the job category and to some extent by broad industrial categories. The utilities, for instance, generally set higher hiring criteria and employ them more rigorously than most other industrial categories.

Hiring criteria in broad terms are as follows.

Clerical and office	18 years of age, 12 years of schooling or equivalent; skills for the job and a good personality
Plant, factory, or operations	18 years of age; 8-12 years of schooling (flexible); physically fit; craft skills or aptitude
Maintenance mechanics	18-25 years of age; 8-12 years of education, but 12 years of apprenticeship; physically fit; mechanical aptitude
Janitor and waitress	Age and education flexible; physically fit; and often for janitors, clearance on police and credit records

The upper age requirements for initial employment in basic entry job classes tend to be set at age 50-55, depending upon limitations established by pension programs.

While the criteria are for the most part reasonably achievable and flexible, the burden is placed on the educational system to provide communication skills, simple arithmetic competence, and job attitudes.

Jobs for Females

The large increase relatively of females entering the Georgia labor force poses special problems of training, job placement, and counseling. Information has previously been presented which shows degrees of concentration of females in major occupational outlets. The following data, which have been compiled on the basis of national data,[10] indicate where females are employed by industries. While the data do not pertain particularly to Georgia, they are useful in identifying by analogy industries in Georgia where women are probably most heavily concentrated.

Industry	Percentage of Total Employment Female (1966)
Manufacturing	
Durables	19.3
Instruments and related products	35.4
Nondurables	38.2
Textile mill products	44.4
Apparel and related products	79.8
Printing and publishing	30.0
Utilities	
Air transportation	23.6
Communication	49.8
Electric, gas, and sanitary services	15.0
Wholesale trade	22.3
Retail trade	44.3
Finance, insurance, and real estate	50.2
Services	
Hotels, motels, etc.	49.3
Miscellaneous business services	34.1
Medical	78.7
Education	45.0
Government	—
Total for all establishments	34.0

Based on national employment data for 1966, given in the preceding table, it is apparent that opportunities for female employment are largest in: (1) services, especially medical, hotels, and education; (2) finance, insurance, and real estate; (3) retail trade; (4) communications; and (5) nondurables manufacturing, with special emphasis on apparel and related products and textile mill products. The jobs available in manufacturing are primarily production line semiskilled workers.

Unemployment and Underemployment

Utilization of human resources is a goal of society, of the economy, and of program makers. Unemployment is a measure of the inability of the economy to utilize available human resources. Unemployment from the worker's side measures lack of preparation to meet the job demands of the labor market. Indeed, it can also measure the failure of the educational system to properly prepare individuals for the demands of the world of work. For the individual, unemployment represents a tragic failure to gain personal achievement; economically, it means inability to participate in the production process and to gain a part of the output for use by the individual and his family.

Underemployment also exists today along with employment. This represents over-training for the job and is a measure of the extent to which the trained abilities of workers are not fully utilized. Both of these concepts, unemployment and underemployment, of underutilization of human resources in labor are in terms of those elements of the population which are active in the labor market. But there is another concept of human failure in the job market. This concerns that group of individuals in society whose failure to find work has been so long and discouraging that they have given up in the search for work and have withdrawn from the labor force. This group has been visualized by labor economists for some time, yet until recent years, there has been no good measure of the size of this group of potential workers, although such data as are available are not by state or area.

Patterns of Unemployment

Patterns of unemployment for Georgia by location, race, sex, and age can be identified only from the 1960 Census of Population which is the most detailed and comprehensive source of statistics available. In 1960 the State of Georgia afforded 1,385,000 jobs but had 65,000 workers unemployed, or 4.5 percent. The urban areas of Georgia which reported 62 percent of the jobs had 60 percent of the unemployed, or an unemployment ratio of 4.5 percent. The extremes in unemployment, however, were found in rural farm areas and rural nonfarm areas, which reported 3.0 percent and 4.9 percent of unemployment respectively. By categories unemployment of whites was 60 percent of nonwhites; and males 66 percent of females. The following tabulation shows how unemployment varied with sex, race, and location in 1960.

Category	Percentage of Civilian Labor Force Unemployed[11]			
	Urban	Rural Nonfarm	Rural Farm	Total
MALES				
White	3.2	3.8	1.9	3.3
Nonwhite	6.5	5.6	2.6	6.7
FEMALES				
White	4.6	5.6	4.5	4.9
Nonwhite	6.5	7.9	9.1	7.0

The percentages show how unemployment varies with sex, race, and location. Opportunities for a wide variety of jobs at varying levels of skills are vastly better in urban centers, but job requirements are more demanding in terms of education, skill, experience, and job attitudes. Both white and nonwhite males in 1960 had lowest unemployment rates in rural farm areas, but this statistic ignores the fact that heavy migration of the better educated and more highly trained is from rural areas to urban centers. White females had somewhat lower unemployment rates in rural farm areas because of the opportunities for self-employment or occupation as housewives. Nonwhite females had highest rates of unemployment in rural farm areas because demand is primarily for male laborers. Except for nonwhite males, rural nonfarm areas had highest unemploymeut rates. Lack of employment opportunities is the big factor, as there is no farm work to be had and factories are not being attracted to small towns in rural areas.

In urban centers it is noted that unemployment among white males was 50 percent of that for nonwhite males; among white females the ratio was 75 percent of that for nonwhite females. Opportunities for employment in urban centers far exceed those for other areas, but the problem of high unemployment among nonwhites may be associated with low levels of educational achievement, poor or inadequate skills, and poor job attitudes in competing effectively for job openings. Often the fault is inability of transportation to get workers to distant points in order for them to hold a job effectively. Unemployment impinges heaviest on nonwhites and females. Relative to the overall composite unemployment percentage, female workers experience 22 percent greater unemployment, nonwhites 40 percent more unemployment, and nonwhite females 55 percent higher unemployment according to the 1960 Census of Population. By age classes, unemployment is highest among age class 14-19; above this age class it steadily drops to the lowest point at age class 40-44 for males and 50-54 for females. Unemployment is of serious proportions for youths in age class 14-19. For males the unemployment ratio is double the overall ratio for the entire civilian labor force; for females, 2⅓ times; nonwhite males 2.2 times; for nonwhite females age 14-19 unemployment rates are in a ratio of 3⅓ that for the labor force in general.

The relationship of educational level to the unemployment ratio may be gained from the following ratios which pertain to 1966-67 graduates from vocational type programs.[12] For those post-high school persons who graduated from an area vocational-technical school, the unemployment ratio was 1.7 percent; for those who finished a vocational educational program from secondary schools the unemployment ratio was 2.5 percent. A contrast with high school graduates cannot be obtained directly because such data are not available for Georgia. At the national level,[13] however, the unemployment rate for the 1966-67 high school graduates was 14.2 percent; for high school dropouts, 18 percent. The effect of training on success in getting jobs is thus overwhelmingly in favor of vocational training.

While unemployment ratios for urban centers tend to be lower than for other areas of the state, except rural farm for some classes of workers, studies show that unemployment in a large urban center tends to be concentrated in poverty areas. This conclusion was reached by a Georgia Department of Labor study during June 1966 and reported in "Atlanta Human Resources Survey."[14] The study was conducted in nine of the 12 poverty areas of Atlanta as identified by Economic Opportunity Atlanta. During the six weeks survey period beginning May 2, 1966, 46,384 interviews were conducted. Of these 8,479 or 18 percent were of whites and 37,905 or 82 percent were of nonwhites. There were 5,699 white females surveyed and 26,153 nonwhite females. Consequently, the results reflect greatly the dominance of nonwhite females in the sample. Fewer than 1,000 of the persons interviewed were under 16 years of age. Eighteen thousand four hundred seventy (18,470) or 40 percent were earning less than $400 yearly; an additional 5,765 reported no previous work experience. The distribution of those in the survey in terms of work status was as follows.

Category	Percentage of Total
Working	39
Not working—in school	7
Seeking work	25
Not seeking work	29
Total	100

It is noted that unemployment (involuntary) is 25 percent or more than eight times that for the State of Georgia. Factors related to unemployment are low educational level (65 percent less than high school) and lack of skill (78 percent). Only 12 percent of the whites and 15 percent of the nonwhites had received any vocational education.

Underemployment

Underemployment reflects incomplete use of labor resources and is therefore an economic waste to society and costly to individuals in terms of income. Based on data from the 1960 Census of Population relative to the number of weeks worked in 1959, it was found that 14 percent of males worked 26 weeks or less during the year and 31 percent of the females worked 26 weeks or less during the year. In current terms this means that approximately 380,000 workers in Georgia are working on a job less than 26 weeks a year, or less than half-time. About half of the total work force worked 50-52 weeks during the year. Obviously many workers, especially females, failed to work full-time through choice, but loss of time from lay-offs, shifts between jobs and inability to find jobs represents imperfections in the labor market. All of these factors result in heavy penalties against the incomes of persons and families, and furthermore, the output of the economy is reduced below its full potential because of these imperfections in the labor market.

Another form of under-utilization of the work force is placement of workers in jobs that do not utilize training or skills, which also results in a loss to individuals and to the economy. It is desirable to utilize each worker to the limit of his or her skill capacity and keep each job holder developing through trainnig toward a higher type of job, gaining better pay for the individual worker and higher output for the company and for the economy. Data on measurement of the size of this type of imperfection in the labor market are not available.

Unidentified Unemployment

A third form of under-utilization of human resources concerns those persons who have withdrawn from the work force through discouragement over inability to find a job despite repeated efforts. It is not possible to estimate this form of under-utilization of manpower in the Georgia economy from published reports. But it can be deduced indirectly from national data. Estimates in the 1968 Manpower Report of the President reveal a rate nationally which is highly indicative of the status of this problem in the Georgia economy. For the United States as a whole, there were 2.8 million unemployed in 1968. The number of persons neither working nor seeking work but who expressed a desire for a job was estimated at 5.3 million. This is a ratio of 1.9 to the number of unemployed. In other words, aside from the specific persons identified as unemployed at a given moment of time, studies show that the unidentified unemployed, excluding those who have permanently withdrawn from the work force is almost twice as great. The latest report on number of unemployed in Georgia, as of April 1967, is shown as 52,700. Application of the ratio of 1.9 indicates that the state has approximately 100,000 unidentified unemployed. These will include the following classes of workers, as identified by the U. S. Department of Labor.[15]

> "—Persons with *limited education* are more likely to be out of the labor force than those with more education.
>
> —A large *number of older workers* —including many with retirement benefits—both need and wish to continue in paid employment.
>
> —Many *women* who want to work, either to support themselves and their families or to *supplement their husband's income*, report that they cannot do so for lack of *child care* facilities.
>
> —*Illness and disability* prevent many persons from working in *physically demanding* occupations and sometimes keep them from working at any job. *Long-term disabilities* also tend to *discourage persons from even looking* for work."

This last source of under-utilization of labor which we have identified is quite large. While startling, it does emphasize the big job that must be done to prepare people for work, to find jobs for them, and to counsel them on the job in order to develop satisfactory and efficient workers for industry.

Factors Related to Unemployment

Much has been written on the causes of unemployment, and it is not possible in a brief space to summarize satisfactorily all the causes. On the demand side of the job market, the technical, skilled, and psychological factors required of workers are in constant process of change. We have noted previously how job patterns are shifting toward more technical and skill requirements in manufacturing and in the service sector towards persons with good basic education but also with abilities to understand people, meet the public, and satisfy individual customers. Rapid advances in technology provide new processes and products which workers must adapt to. This requires workers with astuteness and enough general education to learn the new quickly and to apply it. In this process the worker needs the help of company training and also assistance from public education through adult education.

As far as the youthful worker in an entry position is concerned, he or she must be alert, have good general education, and be motivated to make applications to requirements of the world of work. Somehow in the home and in the school the worker needs to acquire an appreciation for the world of work, a desire to learn about it and become a participant, and to develop also pride of accomplishment. The dropout from high school, the child from a broken home or from a home that is poverty stricken where the father or mother or both hold low-paying, menial jobs, and where there has never been a promotion· will not have these qualities of efficient workers. If the worker is mentally handicapped or has psychological problems and has come to be frustrated by rethere has never been a promotion, will also be a dropout from work, shifting repeatedly from job to job. It is obvious that the problems of unemployment, underemployment, and unidentified unemployment are complex. Their roots are widespread, and it will take a total effort by schools, higher education, company training, supplemented by special programs, to break through into some measure of success in solving these multi-faceted problems, so degenerative of the human spirit and imposing a heavy drag against growth of the economy.

Training Needs

Looking ahead to the period 1975-85, previous analysis has shown a market demand for 99,400 workers yearly. Of these the 18,200 openings for professional and technical workers will require the highest degree of training; 60 percent of these will require college. In some sense the 8,000 vacancies for proprietors· officials, and managers will require either college work or a degree of technical and managerial competence from other sources. Output of college students in 1966-67 was 8,800 plus 2,500 with advanced degrees. In the case of clerical workers, sales workers in some sense, and craftsmen, foremen, etc., the expected vacancies yearly will be 17,000; 8,200; and 6,200 respectively, or a total of 31,400. Current output of graduates from the area vocational-technical schools is 4,454, and from vocational programs in secondary schools, 15,725. Thus the two programs together have an annual output of 20,179. This does not encompass all of the future demands. Many service workers in the medical and related health occupations require skills training. The expected annual vacancies of service workers during 1975-85 are projected at 23,700.

Requirements of Changing Technology

During the last five years the author has completed two large studies of manpower needs in different states. In the process of these studies he has had the good fortune to interview top managers in approximately 100 large companies. This sample of companies represented all segments of the American economy from construction firms to government. The conclusion from these intensive interviews is that the world of work in Georgia is complex and in continuous process of change. Overriding all changes are improvements in technology which are in continuous process of introducing new products, new processes, and opportunities for development and growth of industry. All of these changes make demands on the job holder for improved skills, new skills, and new technical know-how of a high level of sophistication. Companies adopt new technology where it promises a contribution, providing it is financially feasible. But at times they have been almost overwhelmed by the complexity and speed of technological change. Small companies in particular find difficulties in capitalizing on the potentials from new technology. The main conclusion from the different studies is that in one case, we found a need for 30 new technicians: in another study, there was a need for 26 new technicians. The technicians in many cases represented simple adoptions of types of occupations in technology which were known and available. In other cases, we have discovered entirely new technicians emerging in the economy. However, there are diverse trends in the skilled and semiskilled occupations. The trend is toward a dichotomy in skill patterns as a result of rapid trends toward automation of production operations.

Large automatic or semi-automatic production machines are reducing workers in many cases to machine tenders, requiring relatively fewer skills on the production line. But maintenance and upkeep of production equipment are requiring that maintenance mechanics be upgraded to technicians with know-how in electronics reinforced by knowledge also of pneumatics and often also of hydraulics. The need is for quick diagnosis with preventive maintenance in order to prevent down-time of expensive machines. Likewise, in the consumer market for durables, the complexity of large household appliances is placing a premium as never before on quick maintenance and repairs in the interest of good consumer relations.

A large auto dealer who was interviewed in a recent study concluded that, "Exhaust burner has caused and is causing many problems. This company feels it will require new mechanical skills. Developing technology is particularly rapid in the auto industry. Auto manufacturing may come around to making component parts as such and they could simply be replaced and not repaired. If this happens, perhaps the auto repair business could be based on simpler skills."

The effect of an advancing technology coupled with synthetic raw materials is illustrated by forecasts of probable developments in a large clothing operation. Management forecasts development of batteries of large electronic machines which will fuse clothing instead of sewing it, displacing sewing machine operators, in a period of from 10-15 years. By that date it may be expected that disposable clothing will begin to have a considerable impact. Another illustration concerns a large bottling plant in a midwestern city. It has recently installed an electronic line, operated with seven workers. The main function of the workers is to monitor the electronic controls. At the end of the production line, cans are loaded automatically on a fork-lift truck in stacks of line-loaded pallets. Later it is expected that loading will go directly to the freight car.

From this analysis, we see that technological change is the force which requires change on the part of companies and their workers. Education must respond to this need by new and revised curricula and by becoming flexible to the needs for remedial education required by workers at every level of sophistication on the job ladder. The following is a summary of technological trends in Georgia.[16]

- A trend toward use of microwave technology in communication is developing.
- A trend from DC circuitry to AC circuitry is developing, although there is some reversal to DC circuitry where

variable speed control is important.

- A rapid move to a more intensive use of computers is developing in practically all aspects of the Georgia economy. The most widespread uses are in managerial accounting, data processing, and machine tool operations with the use of programmed tape.
- Phenomenal growth is occurring in use of electronic components and systems of all types. Electronic components are being added to many production machines and sub-systems.
- Automatic equipment, frequently electronically controlled, is replacing human effort in the inspection processes.
- Standards for product quality are growing more rigorous. Statistical procedures of quality control, based on the use of sampling and control charts, dominate the methods.
- New materials, new machines, and new proceses are being developed and used as soon as practical. This trend is well illustrated by synthetic textiles, shoe materials, and exotic metals. It is also illustrated by developments in nuclear physics.
- X-ray inspection of airplane parts—assemblies and sub-assemblies before maintenance—is standard practice.
- The application of electronics to medical problems is developing rapidly. Electronic instrumentation for bio-medical and bio-physics uses is quite pronounced. In this area especially, information storage and retrieval is an expanding technology.
- There is a trend toward engineering design of windowless industrial buildings and some other types of buildings to obtain accurate light control at less cost for heating and air conditioning. Craft skills and trades are tending toward replacement by factory built pre-fabricated, pre-assembled building units. These advances, together with scientifically improved paints, materials and mechanically implemented construction methods, are radically changing the skill requirements of construction workers, designers, estimators, and supervisors.
- Technological progress has caused a variety of administrative labor-saving devices to emerge, including microfilm, copy equipment, data-transmission systems, direct communication systems, and material handling devices as well as the computer with its varied services.

Education and training to meet the world of work must be a joint function of public education and of training in industry. The worker in an entry level job is typically poorly educated without vocational skills. Yet in order to gain competence in his first job and also to make progress up the job ladder over the years, the worker must be capable of learning the simple, routine processes of the job, learn to get along with fellow workers, and manage his personal affairs in order that he may be a satisfactory worker. The worker in an initial basic entry job must also learn how to take care of company property and equipment and how to satisfy the company's customers. He must above all have integrity of work. The function of education in meeting these requirements of the world of work is to provide basic communication skills, the sociology of human relationships, human values and how to live and get along in a complex world. Industry's function in creating satisfactory and efficient workers is to provide training in the specific job skills, particularly for basic entry jobs, social skills with fellow workers, and enthusiastic support for company goals.

That preparation of people for the world of work is an intensive cooperative effort of education and of industry is indicated by the fact that for each dollar spent by all the institutions in public and private education, companies in the United States economy spend 50 cents on training programs for workers at every level up to the executive.[17] In fact, many companies will subsidize wholly or in part a college education, even into graduate school, for promising workers. What is needed by all is a more complete knowledge of these two programs. Also, more serious efforts need to be made on the part of both groups to coordinate more completely both aspects of training people for the world of work.

General Education for The World of Work

We have seen how Georgia industry takes workers at every level, including perhaps 85,000 yearly in basic entry jobs. But difficulties are encountered by industry in properly integrating these workers into the work force. They lack the types of communication skills needed by industry; few have good job attitudes; and many do not know how to manage their personal affairs in the world of work. The problem here concerns school dropouts, which may equal 50,000 yearly, of which perhaps 20,000 are dropouts from high school. There should be a type of schooling which fits large numbers of pupils for direct entry into the world of work through a more generalized approach to education, reinforced by methods which develop enthusiasm for the world of work.

What is needed is a concept of education along with an academic education which is oriented to the world of work, beginning perhaps in late grammar school. The main objective would be to provide by age 18 general job skills for entry into basic entry jobs. The purpose would be to open the door to employment in these jobs without discrimination and at the same time provide potentials for development of skills on the job and for personal advancement up the job ladder during the working life of each individual.

This concept will require formulation, independently for academic education, of a basic vocational core of courses for development of general, not specific, basic entry job skills. The program of training envisaged would be for all pupils not specifically fitted for or assigned to academic courses of instruction. There would be a series of balanced courses to develop general job skills, increasing in levels of competence and experience, and to provide proficiency in the three R's, manual skills, job attitudes, etc. These courses would be designed to give a certain level of competence in general job skills for basic entry positions. I propose the following specific courses to start.

- Manual skills for males and housekeeping skills for females
- Job attitudes, including how to find and hold a job
- Three R's pertinent to the world of work
- Factory visits and study, including employment experience
- Terminology and vocabulary building for the world of work
- History of industries
- Communications—how to get along with fellow workers and with supervisors
- Profits and the free enterprise system
- Office machines, including calculators and adding machines
- Elements of bookkeeping
- How to live in a complex world
- Standards of personal conduct
- Responsibilities of citizenship
- Home and family
- Personal finance and its management

Upon completion of this core of courses, the pupil could select one of two alternatives. He could accept a basic entry job in industry, take on-the-job training for specific job skills, and gain potentials for advancement from company training programs; or he could select a second alternative: he could enter a vocational school to pyramid onto the general job skills specific job skills for entry directly into companies in jobs at a higher level of skill and pay. Later, he could return to the vocational school for programs either to update a skill or to broaden his skills.

Special Training Needs

The program just outlined could remedy many of the problems associated with school dropouts. But there are special problem areas in gaining better utilization of the State's human resources which require specially designed curricula and training programs to meet the peculiar needs of each group. Some of the groups needing special help in preparing for a job are the 100,000 handicapped persons in the economy, 100,000 unidentified unemployed or the hard-core unemployed, and 380,000 workers classified as partially employed.

The basic difficulty with all of these special problem groups is that basic education did not "take," and a significant percentage cannot write their names. Often there are psychological needs, and there are complex problems of adjustment to humans and to society in general. The job attitudes which are so important to holding a job over a period of time are practically non-existent. Except for the handicapped and employed adults who are illiterates, all other classes fall in the category of the "hard-core unemployed." The National Alliance of Businessmen[18] developed a plan under the 1968 program for direct employment of the hard-core unemployed which is succeeding with a surprising degree of success. The major thrust of this program is to hire the hard-core unemployed for a basic entry job, suspending usual employment criteria. After placement in a basic entry job, the hard-core employee is assigned to a "Buddy," another worker who has succeeded in holding the job successfully and who is further qualified in having compassion. The "Buddy" not only teaches necessary job skills in a sort of internship arrangement, but he also helps the worker to acquire social and communication skills with other workers. He counsels the worker relative to any of his personal problems, such as handling money, credit, and other problems which develop in a complex society. In order to succeed, a requirement is that top officers make a firm commitment to full support of the program; that the top officer or president order that the hard-core be employed and all red tape cut to permit it; and that they be trained to make effective and efficient workers. Another requirement is that supervisors, unions, and other top workers be given sensitivity training for acceptance of the hard-core employee with goodwill, understanding, and sympathy.

TABLE A
TRENDS IN OCCUPATIONAL STRUCTURE IN GEORGIA

Occupational Class	Percentage of Total 1960	1970	1975	1985
White Collar				
1. Professional and technical	8.8	10.3	11.0	12.2
2. Proprietors and managers, etc.	8.6	9.1	9.2	9.3
3. Clerical and kindred	12.1	13.3	13.8	14.7
4. Sales	6.9	7.3	7.5	7.8
SUBTOTAL	36.4	40.0	41.5	44.0
Blue Collar				
1. Craftsmen, foremen, etc.	12.1	12.5	12.2	11.6
2. Operatives	22.1	21.2	20.6	19.4
3. Service workers, including private household	14.6	15.2	16.5	18.0
4. Laborers, except farm	6.4	5.5	5.0	4.0
5. Agricultural workers	8.4	5.6	4.2	3.0
SUBTOTAL	63.6	60.0	58.5	56.0
TOTALS	100.0	100.0	100.0	100.0

TABLE B
ESTIMATED NET GROWTH IN THE GEORGIA ECONOMY BY OCCUPATIONS FOR SELECTED PERIODS

Occupational Class	Number of Job Openings Yearly	
	1970-75	1975-85
White Collar		
1. Professional and technical	6,200	6,900
2. Proprietors and managers	3,400	3,800
3. Clerical and kindred	6,400	7,400
4. Sales	3,200	3,600
SUBTOTAL	19,200	21·700
Blue Collar		
1. Craftsmen, foremen, etc.	3,200	3,400
2. Operatives	5,000	5,400
3. Service workers, including private household	10,000	9,800
4. Laborers, except farm	000	– 200
5. Agricultural labor	–3,200	–1,100
SUBTOTAL	15,000	17,300
TOTALS	34,300	39·000

TABLE C
ESTIMATED JOB OPENINGS YEARLY FOR PERIOD 1975-85

Occupational Class	Yearly Job Openings From		
	Economic Growth	Replacement of Workers From Death and Retirement	Total
White Collar			
1. Professional and technical	6,900	11,300	18,200
2. Proprietors, managers, etc.	3,800	4,200	8,000
3. Clerical and kindred	7,400	9,600	17,000
4. Sales	3,600	4,600	8,200
SUBTOTAL	21,700	29,700	51,400
Blue Collar			
1. Craftsmen and foremen, etc.	3,400	2,800	6,200
2. Operatives	5,400	9,900	15,300
3. Service workers, including private household	9,800	13,900	23,700
4. Laborers, except farm	– 200	2,200	2,000
5. Agricultural labor	– 1,100	1,900	800
SUBTOTAL	17·300	30,700	48,000
TOTALS	39,000	60,400	99,400

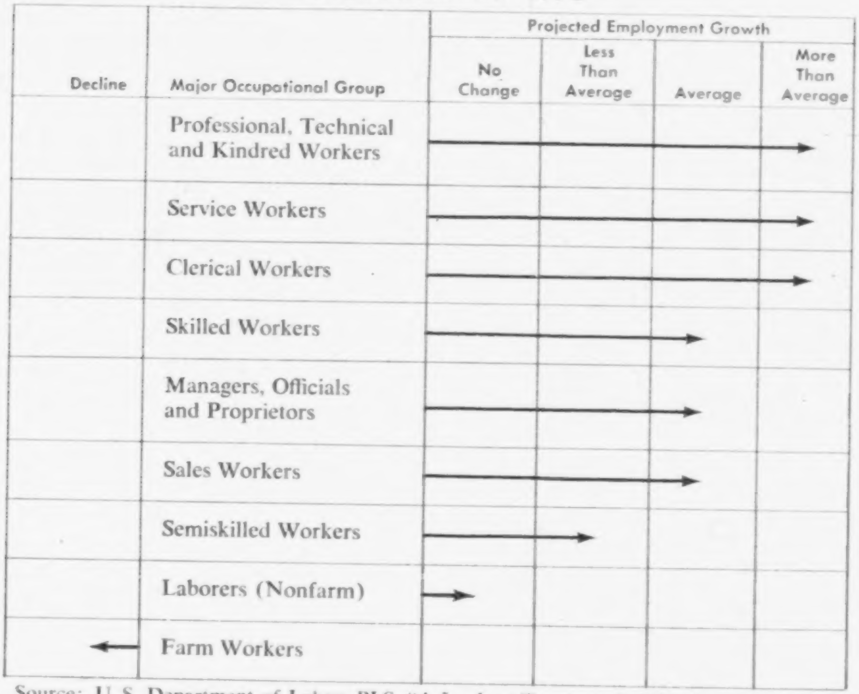
CHART I
PROJECTED INDUSTRY GROWTH RATES TO 1975

Decline	Industry	Projected Employment Growth			
		No Change	Less Than Average	Average	More Than Average
	Government	—	—	—	→
	Services	—	—	—	→
	Contract Construction	—	—	—	→
	Wholesale and Retail Trade	—	—	→	
	Finance, Insurance and Real Estate	—	—	→	
	Manufacturing	—	→		
	Transportation and Public Utilities	—	→		
←	Mining				
←	Agriculture				

Source: U. S. Department of Labor, BLS, "A Look at Tomorrow's Jobs,"
Reprint from Occupational Outlook Handbook, 1966-67.

CHART II

RATE OF CHANGE FOR MAJOR OCCUPATIONAL GROUPINGS TO 1975



Source: U. S. Department of Labor, BLS, "A Look at Tomorrow's Jobs," Reprint from Occupational Outlook Handbook, 1966-67.

Dr. John L. Fulmer, a faculty member of Georgia Institute of Technology, received his Ph.D. from the University of Virginia. Dr. Fulmer is a consultant expert on economic projections and economic forecasting, marketing research and market forecasts, manpower planning and training programs in industry, hiring and training the hardcore unemployed. He is a member of the American Economic Association, American Statistical Association, and the Southern Economic Association. He served as president of the Atlanta Chapter of the American Statistical Association and was city commissioner of Decatur in 1963-64. Dr. Fulmer has served as consultant for many state and national commissions and companies including the U.S. Study Commission, Southern Bell Telephone and Telegraph Co., the U.S. Department of Labor, Board of Regents of the University System of Georgia, and is currently consultant for Office of Appalachian Studies, U.S. Corps of Engineers. He has served on the faculties of four other institutions including Clemson University, University of Virginia, Emory University, University of Kentucky.

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critique:

Manpower and Employment in Georgia

By
Sam Caldwell,
Commissioner,
Georgia
Department
of Labor

THE POSITION paper on "Manpower and Employment in Georgia" prepared by the distinguished Professor of Economics, Dr. John L. Fulmer of the College of Industrial Management at the Georgia Institute of Technology, is well prepared, objective, and comprehensive. It is, however, difficult at best to forecast what the manpower situation in Georgia will be in 1985. Dr. Fulmer has done a professional job using the best information available; but the accuracy of his projections will depend in large measure on factors beyond the control of those within this state and even this country.

Economic growth, both in type and scope, will reflect decisions made in Washington and other capitals throughout the world. Defense industries which provide employment to Georgia's work force, either directly or indirectly, could, with the easing of world tensions, cause large numbers of skilled workers either to be released for other type jobs or to become unemployed. The program for the exploration of space provides opportunities for Georgia workers both within the state and at installations and industrial plants throughout the country. Employment in this area will be directly related to the national administration's decision either to continue the space program on a semi-crash basis or to stretch out the goals for the future.

This state was relatively late in beginning the move from an agricultural to an industrial economy. It is still in transition and the extent to which it will move is not readily predictable. There are some indications that the rush from the farm is slowing and that agriculture, with farm surpluses disappearing and agriculture diversifying, has declined about as much as it will. Currently, moves to locate more sophisticated manufacturing plants in rural areas and to think in terms of agri-business are gaining momentum.

In addition, it has been difficult to distinguish between cause and effect in the population shift from the farms to the cities. Farms have been planted in trees or converted to pasture land because workers were not available. At the same time, farm families were moving to already depressed areas of the cities because of a lack of work on the farm. If this movement can be stabilized, it will have considerable bearing on the future population mix, employment pattern, and type of training needed. An indication that this situation is being recognized is the fact that, at both the federal and state levels, the Farm Manpower Program is being converted to what is known as a "Rural Manpower Program."

It should be noted here that urban centers are not the only generators of economic growth. Any area, regardless of size, that will provide educational facilities, water, sanitation, health services, fire and police protection can generate growth if the local citizens want it. Quality primary and secondary schools throughout the state, both in urban and rural areas, are essential to attract industry to available manpower. Manpower and employment in Georgia now are reflecting external conditions more than at any time in the past. This condition will increase as we enter the period 1970-1985.

We are rapidly moving toward a national job market. Long before 1985 we will be thinking in terms of an international job market. The highly publicized brain drain refers to the flow of immigrants to the United States from Europe and from the less developed countries. Of the more than three million aliens admitted from 1956 through 1966, 8.5 percent were in the professional, technical, and managerial categories.

Dr. Fulmer notes the importance of education fortified by vocational training, not only to the job placement process but also in terms of demands in the economy for an increasing number of trained workers with proper attitudes. This cannot be overemphasized.

The availability of workers for service-type jobs, particularly those contributing to the comfort and happiness of others, is suffering largely because of unfortunate attitudes. There is widespread feeling that working on a job which contributes to the creature-comfort of the users of a service is degrading and should be avoided. These attitudes not only are often held by workers and prospective workers in this job category but are reflected too frequently in the actions of service consumers and in the pay scale for service-type workers.

As we move to a shorter work week, more leisure time, more money to spend, and more people on the move taking mini-vacations throughout the year, there will be a challenge to education as well as industry itself to make working in the services more attractive and more satisfying. Conventional education programs and institutions are not reaching, in a relevant way, certain important segments of the population of the state. The three-pronged paradox of our appallingly high dropout rate, of our need for skilled and willing workers, and of our unacceptably high unemployment rate among those who did not finish school attests to this.

The unemployment rate of the future can be positively influenced by making meaningful adult education available to unemployed and underemployed fathers and mothers and prison inmates as well as to others who are inadequately equipped to compete in a complex job market. We have made tentative starts in this direction, but bold action is required in the 1970s and beyond if this problem is to be solved.

Dr. Fulmer correctly identified the inability of transpotation systems to get workers to distant points in order for them to find and effectively hold jobs in urban areas. Through job development, the employment service can find employers willing to hire the inexperienced and the inadequately trained, but frequently the potential employer is 10 to

20 miles from where the unemployed person lives. This leaves the problem as far from a solution as ever. If our cities continue to sprawl, if employers continue to locate as far from the work force as possible, and if our transportation facilities remain inadequate, we will continue to experience unemployment in the midst of a labor shortage. With respect to the hard-core, the ultimate answer is prevention. Education will play the prime role in this.

Future development in the area of race relations will play an important role in the development of our human resources. The degree to which employers open their plants to all qualified or trainable workers, irrespective of race, will influence the labor supply and the nature of the training required. This fact is true regarding employment of both sexes. The labor supply and training needs of the future will be directly influenced by the extent to which employers hire qualified or trainable workers irrespective of whether they are male or female.

In conclusion, there are forces at work which make it highly difficult to forecast manpower developments for the next 15 years with any great degree of accuracy. These factors make it essential that education be flexible and that future plans provide for quick shifts in emphasis. We must avoid the natural tendency to continue to maintain programs or systems which become outmoded or which turn out adults with skills no longer in demand. Constant vigilance and reception to new ideas, methods, and techniques will be needed if a competitive work force is to be developed.

critique:

Manpower and Employment in Georgia

By G. Clint Rodgers,
Deputy Administrator,
Economic Opportunity Atlanta, Inc.

GENERALLY the statistics referenced and used in the position paper on manpower are the best available and represent a broad spectrum of sources and disciplines. A word of caution, however, must be inserted in that practitioners and administrators in the manpower field consistently descry the lack of adequate data on which to base decisions. Furthermore, we must constantly remain aware that such data and statistics, aside from their incompleteness, represent historical situations and their use for making predictions is increasingly endangered by a multitude of social and cultural forces exerting ever accelerating change on the economics of the nation as well as the state.

The paper recognizes the existence and magnitude of what the author calls the "unidentified unemployed." This phenomenon has important implications for manpower and education. It probably represents the single most urgent symptom of the deeper problems in the educational and manpower systems. This will be discussed further in the later parts of this critique.

Another important symptom mentioned in Dr. Fulmer's paper is underemployment. Significantly, no complete statistics were given. Two major problems relative to underemployment prevent an adequate assessment. First, there is no consensus on what constitutes underemployment. The U. S. Department of Labor roughly defines underemployment as placement of a person in a job which requires less skill than the person possesses. However, most poor people and civil rights groups usually speak of underemployment as working in a job which pays less than is required to maintain a minimal standard of living. Lack of understanding and/or acceptance of a definition makes data collection virtually impossible. This accounts for Dr. Fulmer's statement that "Obviously many workers, especially . . . females, failed to work full-time through choice. . . ."

Among poor women, what may appear to be a failure to work by choice often represents overwhelming obstacles to employment created by less than subsistence level wages coupled with a multitude of social and personal problems.

Second, no technique of data collection on underemployment has been proven adequate. The degree of confusion on this is demonstrated by a question which a businessman asked me: "How many able bodied black men are there in the ghetto that have not been counted?" Although much speculation has been done, the only absolute response is that as soon as they are counted, there will not be any.

Interpretation of Data

You may have noted that several times the word "symptom" has been used in this critique, whereas the same phenomenon in the position paper was usually stated in the implied context of a "problem." Herein lies my criticism of the paper. Much of the paper's interpretation of the data becomes the best example of its own lack of validity. Before proceeding with examples which demonstrate the above point, please note that there is absolutely no intent to question or impugn the integrity or character of the author of the paper. Rather, therein lies the maddening frustration of our times. The interpretations are quite valid for a white, middle class oriented society, but we are faced with the growing self awareness of subculture groups comprised of both black and poor white citizens. Without arguing the relative merits of the value systems of these various groups, the fact remains that conclusions and interpretations based on majority cultural outlook are not necessarily valid for the subgroups, and plans and programs based on such criteria are in large measure failing and will likely continue to fail.

It is quite natural for anyone imbued with the dominant cultural viewpoint to asume that a public school system which has been fairly successful in educating the majority of the dominant white middle class should succeed with other groups as well. Thus it follows that anyone who fails in the system does so because he is incapable or unwilling to learn. The paper continues to the next logical step of proposing additional education, training, and counseling for the dropouts and failures. This is treatment for the symptom when the cause is perhaps more related to lack of believable opportunities even with education.

The paper also cites transportation as a job barrier. In reality this is often a symptom of the real problem, which is the economic and social restrictions on housing patterns for the poor and the black which separate them from job opportunities.

Other examples could be cited, but the point is that the explicit and implicit interpretations in the paper must be questioned since they reflect the educational and economic value systems on which program goals and directions will be based—and which are, to various degrees, rejected by those to be benefitted. The purpose of this approach is to suggest that writing educational prescriptions for symptoms will not likely cure the causes of economic illness. A case can be made for treating symptoms for short range relief, but the major danger comes only if we believe that we are treating the causes.

Conclusions and Implications

If the approaches to the interpretation of data suggested in this critique are valid, the conclusions and implications for education are rather extensive. Although any of the following points deserve more space and attention than is available here, the purpose of this critique is to suggest some new approaches to viewing the problem based on experiences of one involved in administering programs designed to educate and train the hard core unemployed and underemployed. Also, since this discussion centers around the educational system, we must recognize that education does not exist in a vacuum, but is a part of the total social and economic value systems. Therefore, education alone cannot solve all the problems or symptoms visible in its structure, but must, if it is to survive, assume more positive leadership both inside its structure as well as in the total community.

The education establishment must reexamine its attitudes, both conscious and unconscious, toward the dropout. It is easy and calming to one's ego to assume that a student who fails or drops out is incapable or unwilling to learn. It is somewhat disquieting to say that the school system does not know how to teach the student. It is easy to offer compensatory education because that implies that the system is valid and the student is just slow. To suggest that the system may not be relevant to the student is often viewed as un-American. To expel a poor performer and troublemaker is to reinforce and maintain the system's self image. To explore the possibility that the student fails to perform and misbehaves because he believes the school is hostile toward him is painful. Although the student from a disadvantaged background admittedly brings many problems, the challenge to education is to learn how to succeed with him.

Dr. Fulmer suggests that more emphasis be placed on vocational education both in the existing public schools as well as through the area vocational technical schools. In the public schools such a program is needed; however, a real danger exists that this will be instituted primarily in schools with high dropout rates. This very suggestion was recently made by an Atlanta educator. If this happens, it will again reinforce the attitude that these students are incapable of academic work. This approach would insure failure and an eventual confrontation along racial lines. A quality academic program as well as vocational education is needed in all public schools.

As Dr. Fulmer points out, the area vocational-technical schools have done an excellent job in training people for successful job placement—for those who can and will attend. Last year one such vocational school in the state published statistics which revealed that over 95 percent of its enrollees were high school graduates. Obviously this school was not serving the hard core unemployed. This fact can probably be attributed to at least two major factors—the high entrance requirements for many of the courses and hostility toward the educational establishment on the part of the dropout. Skills centers are being proposed to meet the needs of the hard core unemployed. Such centers have had some success elsewhere, but only where there has been a considerable departure from traditional vocational education.

In summary, Dr. Fulmer did an excellent job of revealing many pertinent factors relative to the future of manpower in Georgia. The main thrust of this critique is to provide the reader with another interpretation of the data based on experience with those whom the educational system failed. The time and space restrictions in this critique make impossible the full development of the ideas and concepts outlined, but my hope is that stimulation for further thought has been given.

Demography of Georgia

By James D. Tarver, Ph.D.

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University of Georgia

OGLETHORPE and his colonists settled in the Georgia colony in 1733. Between that date and 1746, the trustees of the colony paid the transportation expenses of 1,675 people to the colony. In addition, 1,304 settlers had come at their own expense prior to 1742.

The Georgia colony grew rapidly between 1752 and 1790, going from an estimated 5,000 population in 1752 to 82,548 persons in 1790 (Table 1). The 1790 census shows that 83.1 percent of the foreign-born white were English, 11.2 percent were Scotch and 2.3 percent were Irish.

The growth of the population of Georgia until 1790 was caused primarily by immigration from the British Isles. After this date, the major population growth of the state in early statehood was caused by migration from other colonies as frontier settlements moved westward.

The population of Georgia has grown from 82,548 at the date of the first decennial census to over 4,600,000 inhabitants in 1969 (Table 2). The population increases have been rather substantial each decade, with the exception of the 1920-30 period.

By 1850 Georgia's population had risen to more than 906,000 people. Large numbers of native-born persons had moved south and southwest into Georgia. In 1850 over 52,000 of Georgia's white residents had been born in South Carolina, 37,522 in North Carolina, 8,211 in Tennessee and 7,331 in Virginia. In addition there were over 5,900 foreign-born whites residing in Georgia in 1850. Approximately 72 percent of the foreign-born whites were from the British Isles (3,302 from Ireland, 679 from England, 367 from

Scotland, 13 from Wales), and 16 percent were from Germany (a total of 972 persons). No authentic records exist on the origins of the Negro population of Georgia.

The population of Georgia increased steadily after 1850, except for the 1920-30 decade (Tables 2 and 3). The very small population growth in the twenties is largely attributable to the great reduction in cotton production caused by the boll weevil. This resulted in the net migration loss of nearly half a million people who had depended on cotton for a living.

The severity of the boll weevil attack came in 1921-23, when cotton production dropped from 2,122,000 bales in 1918 to 588,000 bales in 1923. Cotton yields, which had been steadily increasing, dropped to all-time lows, debts mounted, farms became heavily mortgaged and farmers found themselves in a depression. A mass exodus to cities and to other sections of the country followed.

Between 1870 and 1960 the growth of the population of Georgia cannot be attributed to migration into the state, but rather to the natural increase (excess of births over deaths) in the population. During this 90-year period, the state suffered a net migration loss of nearly one and a half million persons. Had no migration taken place, Georgia's population would have increased from 1,184,109 in 1870 to nearly 5,410,000 in 1960 (Table 2).

Since April 1, 1960, the net migration losses have been reversed, and for the first time since 1870, Georgia experienced a net migration increase (Table 2). Moreover, since 1960, the population of Georgia has been increasing more rapidly than the nation as a whole. The rates are 17.7 percent for Georgia and 12.6 percent for the United States between April 1, 1960, and July 1, 1969.

Prior to 1910, the volume of net migration of whites from Georgia exceeded that for nonwhites. However, beginning with the 1910-1920 decade and continuing through the 1950-60 decade, the net number of nonwhite migrants from the state surpassed the net number of white migrants (Table 4). For example, nonwhites comprised more than 95 percent of the net migration loss from Georgia during 1950 to 1960.

The 1985 population projections for Georgia indicate that there will be between 5,400,000 and 6,202,000 inhabitants. This will mean a population increase of 1,457,000 to 2,259,000, or 37.0 to 57.3 percent, between 1960 and 1985. The number of residents 65 years of age and over will increase proportionately more rapidly than will any of the younger age groups. The projected relative increase in the college-age population to 1985 is the highest of all three school-age populations. The projected increase for the high-school-age group is second and the elementay-school-age group is the lowest.

The projected sex composition in 1985 is somewhat problematical for the total population. The most significant change in the sex ratio will occur in the older population, since females will increase much more rapidly than males in the middle and advanced ages.

The proportionate number of nonwhites is likely to change very little between 1960 and 1985, with the 1985 projected percentages ranging from 27.3 to 29.0 as compared to 28.6 percent in 1960.

The 1975 projections indicate that 89 counties will probably experience population gains and 70 will experience losses between 1960 and 1975. Four counties (DeKalb, Rockdale, Douglas and Dougherty) are likely to gain over 100 percent. Five counties (Baker, Taliaferro, Wilcox, Randolph and Berrien) are likely to decline by as much as 30 percent.

Historical Trends

Trends in Racial Composition

When the first census was taken in 1790, fewer than 30,000 nonwhites were enumerated in the State of Georgia (Table 5). The number of nonwhites grew steadily until 1920, when over 1,200,000 were enumerated on that date (Tables 5 and 6). For the next three decades, the nonwhite population actually declined due to the heavy movement out of the state. For example, had there been no net migration between 1940 and 1960, the number of nonwhites in Georgia would have increased by 262,297 persons rather than the enumerated growth of only 40,448.

One of the important trends in Georgia's population has been the declining relative numbers of nonwhite inhabitants in the state. In 1790, nonwhites comprised less than 36 percent of the total Georgia population. The proportionate numbers increased irregularly until 1880 when the percentage reached its peak at 47 percent. Since that time the percentage has been declining rapidly. In 1965 the estimated percentage of nonwhites had dropped to slightly over 27.

The number of inhabitants classified as "other races" has constituted a very small segment of the total nonwhite population in Georgia (Tables 5 and 6). Even in 1960 they numbered less than 3,300.

The white population of Georgia has been increasing rapidly, both numerically and proportionally, since 1880. Practically all of the whites are native born. Although the foreign-born white population more than doubled between 1940 and 1960, it still comprises less than one percent of the total population of Georgia each census year since 1880 (Table 7).

Trends in Age Composition

One of the most notable changes that has occurred in the composition of Georgia's population has been the rising average age of its residents. The median age of Georgia's inhabitants rose from 17.7 years in 1880 to 26.2 years in 1950 and dropped slightly to 25.9 in 1960 due to the large baby boom in the 1950's (Table 8). Nonetheless, the median age of the white females continued to increase between 1950 and 1960.

The rapidly aging population is due mainly to declining death rates, especially among females. The continued increase in average life expectancy will further raise the median age of the state's population if the drastic drop in the birth rate is not reversed.

The major reason that nonwhites have lower average ages than whites is that Negroes have higher death rates. Moreover, females have lower death rates than males, which accounts for the higher median ages of females.

One of the most significant trends in Georgia's population has been the growing proportionate numbers in the productive ages, with the relative number of persons 20-64 years of age increasing from 42.7 percent in 1880 to 50.1 percent in 1960. The relative number of persons in the older working ages of 45 to 64 years of age has increased from 9.7 percent in 1880 to 17.6 percent in 1960. However, the proportionate number of young workers 20 to 44 years of age has declined slightly from 33.0 percent in 1880 to 32.5 percent in 1960.

Between 1880 and 1960, the proportionate number of persons in the state 65 years of age and over increased from 2.9 percent to 6.3 percent (Table 9). Nevertheless, Georgia had a smaller proportionate number of aged persons than the nation as a whole, which had 9.2 percent 65 years of age and older. Iowa, with 11.9 percent of its population in this age category, was highest of all states in 1960.

There are two basic explanations for the rapid increase in the number of elderly persons in Georgia. First, declining death rates and an extension of life expectancy have contributed to the rising numbers living beyond the age of 65. Second, the great exodus of young persons from the state, particularly Negroes, has resulted in a proportionate increase of old people living in Georgia.

Trends in Sex Composition

During the time 1880 to 1960, only in the years 1890 and 1910 did the number of Georgia males outnumber the females (Table 10). Since 1910, the sex ratio (the number of males per 100 females) has diminished consistently as the excess of males over females has disappeared.

Even though there are approximately 106 males born for every 100 females, death rates are higher at all ages for males than females, and in the elderly ages there are substantially more women than men. For example, in 1960 the sex ratio of the population of Georgia under five years of age was 102.8, but for those 75 years of age and over it was only 67.4.

The sex ratio for Negroes is consistently lower than for whites. Table 8 shows that only in 1880 and 1890 did Negroes in Georgia have higher sex ratios than whites.

One of the most rapid changes in sex composition that has occurred in the state has been the rapid decline in the excess of foreign-born males. The early foreign-born settlers in Georgia contained a disproportionately large number of males. Higher mortality among males and the immigration of "war brides" account for the rapid decrease in the sex ratio among the foreign-born.

There are some rather marked differences in the sex ratios of the three major residential groups in Georgia. In 1960, the sex ratio of the rural nonfarm population was 102.3, but only 90.4 for the urban areas. The rural farm areas were intermediate with a sex ratio of 102.0. These differentials are largely attributable to the fact that females move from the rural areas to cities in greater proportionate numbers than do males.

The decline in the sex ratios for all color groups may persist in the visible future, for the decreases in death rates among women, particularly at the advanced ages, will surpass those for males. These probable sex differentials in life expectancy will not only augment the disproportionate number of females at older ages and further depress the sex ratios in these age groups, but will also increase the probability that wives will outlive their husbands, further enlarging the number of widowed females. The problems associated with widowhood will, therefore, multiply in the forthcoming years.

The Dynamics of Population Change

The size of the population is determined by fertility, mortality, and migration. In the following section, each of the three components of change will be treated separately.

FERTILITY. Apparently the birth rate in Georgia started to decline sometime during the nineteenth century and continued to decline slowly until the late 1920's and 1930's. In 1941 the crude birth rate began a gradual increase until 1949, and then it began to drop again, particularly after 1954 (Table 11). By 1967 it had fallen to its lowest point since 1927, and the prospects are that the rate will drop even further.

Georgia was one of the last states to be included in the birth and death registration areas in 1928. It should be borne in mind that the figures for deaths and births are low for the earliest years shown in Table 11 because of underregistration.

Nonwhites in Georgia have rather consistently had higher crude birth rates than whites, with exceptions in only a relatively few years (Table 11). Table 12, which shows the number of children ever born per 1,000 women ever married, indicates the white-nonwhite fertility differentials more precisely than do the crude birth rates. In all three residence groups, nonwhite women have had larger numbers of children than have all mothers. However, in the urban areas, the fertility of nonwhites more closely approximates that of whites than in either the rural nonfarm or rural farm areas of Georgia.

Although the marriage rate has dropped somewhat since 1954 and the divorce rate has risen, these two trends do not completely account for the falling number of births and the declining birth rate in Georgia (Table 13). Family planning and the changing attitudes toward small families have largely been responsible for the reduced birth rates.

MORTALITY. Although the number of deaths in Georgia has increased somewhat since 1927, the crude death rate has declined, especially among nonwhites (Table 11). Nonwhites, however, continue to have substantially higher mortality rates than whites.

As Table 3 shows, the population growth of Georgia between 1870 and 1960 was due entirely to natural increase (the excess of births over deaths). During the 1954-1957 period, the state's population increased almost 70,000 per year as a result of natural increase. However, in 1967 the natural increase in the state's population fell to less than 50,000 (Table 11).

MIGRATION. Until statehood, the increase in the population of Georgia was due principally from the settlement of immigrants. Later, native-born migrants from South Carolina, North Carolina, Tennessee and Virginia moved into the state in relatively large numbers. However, between 1870 and 1960, there was a net migration loss of approximately one and a half million persons from Georgia (Table 3). The net migration losses have been reversed during the present decade, with Georgia experiencing a net migration gain of 141,000 persons between April 1, 1960, and July 1, 1969. Thus, 20 percent of the state's population growth during 1960 to 1969 was due to migration and 80 percent to natural increase.

An examination of the data which shows state of origin reveals that the early movement into Georgia was primarily of short-distance, involving movement predominantly southwestwardly from contiguous states. At present, the largest number of native-born whites and nonwhites living in Georgia was born in one of the five contiguous states.

In addition to the observation that people move short distances, a second migration pattern is that each main stream of migration is accompanied by a significant counter-movement in the opposite direction.

A century ago residents of Georgia moved westward to the frontier of Alabama, Mississippi, Louisiana, Arkansas and Texas. This movement continued through 1930 with most Georgians moving to contiguous states.

Although the 1930 census data show that migrants move short distances, they also show that the native-born Negroes moved farther than did the whites and they moved in a different direction.

Beginning around 1920, Negroes from Georgia began moving northward in much larger numbers than did the whites. For instance, the 1930 census indicates that large numbers of Georgia native Negroes lived in Ohio, Pennsylvania, Michigan, Illinois, New York and New Jersey. The exodus and long-distance movement of Negroes from the South to the northern industrial states has continued. Apparently, the long-distance migration reflects limited opportunities for Negroes in the South.

Interstate migration data for 1935-40, 1949-50 and 1955-60 reveal similar patterns of movements for whites and nonwhites into and out of Georgia. However, some leapfroging from one area to another has occurred which involves long-distance movement. This is especially the case for servicemen who are transferred long distances.

One major economic concern to the state is the relatively heavy out-migration of the productive workers under

30 years of age. Table 14 shows that there was a net out-migration of between 25 and 35 percent of the nonwhites from Georgia between 1950 and 1960. Practically all of the nearly 214,000 net migration loss from the state between 1950 and 1960 was among the nonwhite population.

Trends in the Geographic Distribution of the Population

The population of Georgia was concentrated along the Atlantic Seaboard and the Savannah River when the first census was taken in 1790. At that time there were no cities enumerated in Georgia, and the sites of the present cities of Atlanta, Columbus and Macon were in relatively uninhabited Indian country. By 1800 there was only one urban center, Savannah, in Georgia. It had a population of 5,146.

After 1790 the population of Georgia grew rapidly with settlement moving westward. The Negro population settled mostly in the plantation sections of the Piedmont. In some counties as much as 75 percent of the population was Negro.

Population centers such as Columbus and Macon began to develop along the fresh water streams that could be navigated. Later in the nineteenth century, transportation spurred the growth of such cities as Atlanta, Athens and Waycross. Commerce and industry brought larger and larger numbers of people to the urban areas of the state. Concomitantly, there was a substantial movement from the farm and small agricultural towns to the cities in the state.

Table 15 shows that there has been a rapid growth in the number of inhabitants residing in the urban areas of Georgia since 1790 and a small decline in the rural areas since 1920. Since 1810, the population growth in urban areas each decade has exceeded that for the rural areas. By 1960, a larger proportionate number of nonwhites than of whites resided in the urban areas of Georgia.

It is impossible to examine the population trends of Georgia counties over long periods due to the changing number and geographic boundaries of counties. Table 17 shows the population changes of counties with comparable boundaries between 1930 and 1960.[1]

Three of the five counties in the Atlanta Standard Metropolitan Area (Clayton, DeKalb and Cobb) experienced population increases of 220 to 352 percent (Table 17). Also, Dougherty County in southwestern Georgia increased nearly 240 percent, and Houston County in central Georgia increased nearly 250 percent in population during that time. Five other counties (Muscogee, Catoosa, Glynn, Dade and Whitfield) had population increases of 100 to 199 percent.

In contrast, fifteen counties in central and southwestern Georgia suffered population losses of 35 percent or more between 1930 and 1960. Of these, Taliaferro, Baker, Wheeler, Heard and Wilcox registered population losses of 40 to 45 percent.

The Future Population of Georgia

Georgia's prospects for population growth to 1985 are portrayed in Table 18. The 1970 projections indicate that there will between 4,678,000 and 4,741,000 inhabitants, reflecting a gain of 724,000 to 798,000 people between April 1, 1960, and April 1, 1970.

By 1975 Georgia's prospective population should range from 4,928,000 to 5,158,000 persons, and by 1980 the projected population is between 5,172,000 and 5,659,000. The 1985 projections indicate that there will be between 5,400,000 and 6,202,000 residents, giving a projected population increase of 1,457,000 to 2,259,000 between 1960 and 1985. The highest of the six

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[1] In 1930 Campbell and Milton Counties were separately enumerated in the census. Between 1930 and 1940 they were annexed to Fulton County. The 1930 population for Fulton County in Table 17 includes the 1930 population of both Campbell and Milton Counties.

1985 projections (Series B fertility with no net migration) provides a projected population increase of 57.3 percent since 1960, whereas the lowest projection (Series ID) provides a projected population increase of 37.0 percent.

Age Composition

Some major changes will occur in the age distribution of Georgia's population between 1960 and 1985 (Tables 19 and 20). While the total population of Georgia will probably grow by 37 to 53 percent during this 25 year period, the projected increases for the different age groups are not uniform.

POPULATION OF PRESCHOOL AGE. There was an estimated 503,000 children in the preschool ages (under 5 years) in 1965, or about 31,000 more than in 1960 (Table 20). The size of this group until 1985 hinges, of course, upon the trend in the future birth rates. By 1970, the projections show that Georgia can anticipate a half million children of preschool age. By 1985 this group will range from a projected 533,000 to 712,000, which implies increases of 13 to 51 percent between 1960 and 1985.

POPULATION OF ELEMENTARY SCHOOL AGE. The number of children of elementary school age (5-13 years) grew by 60,000 between 1960 and 1965, gaining nearly eight percent (Table 20). Between 1965 and 1970, Georgia can expect a further increase of 52,000 in the number of youngsters of elementary school age, raising the total to 895,000 in 1970. The 1985 projections show between 840,000 and 1,138,000 children in this age group, denoting probable increases of 57,000 to 355,000 or of 7 to 45 percent between 1960 and 1985.

POPULATION OF HIGH SCHOOL AGE. The number of Georgia youths of high school age (14-17) increased from 278,000 in 1960 to an estimated 346,000 in 1965. This group will steadily increase in size until 1975 when the projected number is 398,000. By 1985 it will number 339,000 to 415,000. This signifies gains of 61,000 to 137,000 or from 22 to 49 percent between 1960 and 1985 as the large projected number of children reaches high school age.

POPULATION OF COLLEGE AGE. The number of Georgians of college age (18-21) is likely to increase consistently from 233,000 in 1960 and an estimated 316,000 in 1965, to 418,000 in 1980 (Table 20). However, the projected number is likely to dwindle between 1980 and 1985 as a result of falling birth rates during the 1960's. However, both projections suggest marked gains in the prospective number of college age youth between 1960 and 1985. By the latter date, the size of this group should stand between 382,000 and 391,000, evidencing gains from 64 to 68 percent since 1960.

The projected relative increase in Georgia's college age population between 1960 and 1985 is the highest of all three school age populations; the projected relative increase for the high school age population is second highest; the projected relative increase for the elementary school ages is the lowest of the three.

POPULATION OF WORKING AGE. The number of persons in the young productive ages (18-44) will increase substantially between 1960 and 1985 (Table 19). In fact, the projected increases amount to gains of 885,000 to 934,000, or 63 to 66 percent.

The number of Georgians in the older working ages of 45-65 years will also increase consistently to 1985 but at a much lower rate than that for younger workers. By that date, there will be between 911,000 and 919,000 persons between 45 and 64 years of age, indicating gains of 198,000 to 206,000 persons, or increases of 28 and 29 percent.

THE AGED POPULATION. The most pronounced trend in the age structure of Georgia's population has been the increase in the aged population. In fact the relative number of Georgians 65 years of age and over has risen from 2.9 percent in 1880 to 6.3 percent in 1960. By 1985, the proportionate number of persons 65 years of age and over is projected to be from 8.1 to 9.0 percent (Table 19).

All four projection series indicate a steadily mounting number of aged residents after 1960, with the proportionate size of this group increasing 67 percent between 1960 and 1985. Thus, the population 65 years of age and over will increase proportionately more than will any of the three broad groups under 65 years of age.

The continued extension of average life expectancy will not only bolster the number of persons 65 years of age and over, but will also lengthen the period of old-age dependency. The increased chances of survival will prolong lives, enabling larger numbers to live to retirement. In addition, the pronounced pattern of an exit of older male workers from the labor force will also extend the average length of the period of old-age dependency, and thus will greatly intensify work in the field of geriatrics. The perplexing problems associated with rising numbers of aged persons, prolonged retirement on limited incomes, infirmity and ill health, social isolation and dependency will become, therefore, increasingly onerous between now and 1985.

SEX COMPOSITION. Although the sex ratio (the number of males per 100 females) has declined since 1910, the future trends to 1985 are indefinite for the total population of Georgia (Tables 10 and 21). In 1960, there were only 95.5 males per 100 females. The projected number in 1985 may range from 94.9 to as high as 96.1 (Table 21).

There will be an increase in the masculinity of those under 18 years of age between 1960 and 1985. While women outnumbered men in the 18-44 year-old age group in 1960, men will outnumber women in 1985. However, among those 45-64 and 65 years of age and over the proportionate number of women will increase considerably. By 1985, there will be only 84 men per 100 women 45-64 years of age and fewer than 67 men per 100 women 65 years of age and over.

The most noteworthy change in the sex ratio will occur in the older population, since females will increase much more rapidly than males of middle and advanced ages. This projected trend is ascribable to the lower mortality of females than of males.

RACIAL COMPOSITION. Between 1880 and 1960 the proportionate number of nonwhites declined from 47 to 28.6 percent (Table 5). The projected percentages in 1985 range from 27.3 to 29 (Table 22).

Nonwhites 18 years of age in 1985 may be relatively more or less numerous than in 1960. However, the proportionate numbers of nonwhites 18-44 years of age will increase between 1960 and 1985 whereas their proportionate number will decline among those 45-64 and 65 years of age and over.

The four bureau of the census population projections for Georgia in 1985 show that both the white and nonwhite populations will grow between 1960 and 1985. The 1985 white population will range from 3,926,000 to 4,295,000, an increase of 39 to 52 percent. The 1985 nonwhite population will range from 1,474,000 to 1,753,000, an increase of 31 to 56 percent. Thus, the relative population gains are approximately the same for whites and nonwhites during the 25-year period.

Probable Geographic Distribution of Georgia's Future Population

Although the foregoing projections indicate a consistent enlargement in Georgia's total population from 1960 to 1985, not all 159 counties will share equally in these gains. A widespread population reshuffle within the state is likely, due to a marked dispersion from certain areas and a piling-up in others. Thus, the state's population will be more unevenly distributed in 1985 than in 1960.

Clayton, Columbia, Cobb, and Houston Counties will experience very rapid population growth between 1960 and 1975 with the number of inhabitants increasing by over 100 percent (Table 23). Four other counties (DeKalb, Rockdale, Douglas, and Dougherty) will have population increases of more than 75 percent. Moreover, nine counties (Liberty, Henry, Glynn, Effingham, Catoosa, Clarke, Gwinnett, Whitfield, and Forsyth) are likely to have population gains of 50 to 75 percent.

Seventy of the 159 Georgia counties will probably experience de-population between 1960 and 1975 (Table 23). Baker County's projected decline amounts to more than 40 percent. The population of Taliaferro, Wilcox, Randolph and Berrien Counties is likely to decline by more than 30 percent. Furthermore, Webster, Echols, Wheeler, Miller, Worth, Dooly, Stewart, Early and Irwin Counties will probably have population losses in excess of 25 percent.

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Table 1. Estimated Population of Georgia, 1752 to 1790

Year	Total Population	Whites	Nonwhites
1752	5,000	—	—
1760	9,000	6,000	3,000
1766	18,000	10,000	8,000
1773	33,000	18,000	15,000
1776	50,000	—	—
1790	82,548	52,886	29,662

Source: Bureau of the Census, *A Century of Population Growth*, U. S. Government Printing Office, Washington, D. C., 1909, p. 7.

Table 2. Population of Georgia 1790 to 1969

Census Date	Population	Increase over Preceding Census	
		Number	Percent
1969	4,641,000	698,000	17.7
1960	3,943,116	498,538	14.5
1950	3,444,578	320,855	10.3
1940	3,123,723	215,217	7.4
1930	2,908,506	12,674	0.4
1920	2,895,832	286,711	11.0
1910	2,609,121	392,790	17.7
1900	2,216,333	378,978	20.6
1890	1,837,353	295,173	19.1
1880	1,542,180	358,071	30.2
1870	1,184,109	126,823	12.0
1860	1,057,286	151,101	16.7
1850	906,185	214,793	31.1
1840	691,392	174,569	33.8
1830	516,823	175,834	51.6
1820	340,989	88,556	35.1
1810	252,433	89,747	55.2
1800	162,686[a]	80,138	97.1
1790	82,548[b]	—	—

[a] Includes population of areas now in Alabama and Mississippi.

[b] No population returned for that part of Georgia now in Alabama and Mississippi.

Table 3. Estimates of the Components of Change in the Total Population of Georgia, 1870-1969

Year	Population	Net Change During the Previous Decade or Period		Components of Change During the Previous Decade			
		Number	Rate	Births	Deaths	Natural Increase	Total Net Migration
1969 (July 1)[1]	4,641,000	698,000	17.7	907,000	350,000	557,000	+141,000
1960[2]	3,943,116	498,538	14.5	1,031,491	319,384	712,107	–213,569
1950[3]	3,444,578	320,855	10.3	910,000	300,000	610,000	–290,000
1940	3,123,723	215,217	7.4			367,517	–152,300[4]
1930	2,908,506	12,674	0.4			492,674	–480,000[4]
1920	2,895,832	286,711	11.0			405,411	–118,700[4]
1910	2,609,121	392,790	17.7			447,890	–55,100[4]
1900	2,216,331	378,978	20.6			452,378	–73,400[4]
1890	1,837,353	295,173	19.1			326,573	–31,400[4]
1880	1,542,180	358,071	30.2			410,571	–52,500[4]
1870	1,184,109	—	—			—	

[1] Bureau of the Census, *Current Population Reports, Population Estimates,* "Estimates of the Population of States: July 1, 1968 and July 1969," unpublished.

[2] Bureau of the Census, Current Population Reports, *Components of Population Change, 1950 to 1960, For Counties, Standard Metropolitan Statistical Areas, State Economic Areas, and Economic Subregions,* Series P-23, No. 7, November 1962, p. 20.

[3] Bureau of the Census, *Current Population Reports, Population Estimates,* "Estimates of the Population of States, July 1, 1940, to 1949," Series P-25, No. 72, May 1953.

[4] Everett S. Lee, et. al., *Population Redistribution and Economic Growth, United States,* 1870-1950, Volume I. Philadelphia: The American Philosophical Society, 1967, pp. 74-77, 87-90, and 130-131. The net migration estimates are for native whites, Negroes and foreign-born whites. For the last group only, the net migration estimates are for foreign born whites 10 years of age and over at the end of the decade.

Table 4. Estimates of Net Migration, by Color, for Georgia, 1870 to 1969

Decade	White	Nonwhite	Total
1960-1969	—[2]	—[2]	141,000
1950-1960	–9,000	–204,000	–213,000
1940-1950	–49,000	–240,000	–289,000
1930-1940	–49,300[1]	–103,000	–152,300
1920-1930	–184,200[1]	–295,800	–480,000
1910-1920	–32,300[1]	–86,400	–118,700
1900-1910	–34,800[1]	–20,300	–55,100
1890-1900	–42,300[1]	–31,100	–73,400
1880-1890	–45,900[1]	14,500	–31,400
1870-1880	–27,100[1]	–25,400	–52,500

[1] White net migration estimates for 1870 to 1940 include the net migration of foreign-born whites 10 years of age and over at the end of the decade.

[2] Net migration estimates by color are unavailable.

Source: Everett S. Lee, et. al., *Population Redistribution and Economic Growth, United States*, 1870-1950, Volume I, Philadelphia: The American Philosophical Society, 1957, pp. 74-77, 87-90, and 130-131; Bureau of the Census, *Current Population Reports, Population Estimates,* "Estimates of the Components of Population Change by Color For States: 1950 to 1960," Series P-5, No. 247, April 2, 1962; and Bureau of the Census, *Current Population Reports, Population Estimates,* "Estimates of the Population of States: July 1, 1968, and July 1969," unpublished.

Table 5 Population Growth in Georgia, 1790-1965, by Race

Year	Total Population	White		Nonwhite		Negro		Other Races
		Number	Percent	Number	Percent	Number	Percent	Number
1965	4,391,004	3,201,034	72.9	1,189,970	27.1	—	—	—
1960	3,943,116	2,817,223	71.4	1,125,893	28.6	1,122,596	28.5	3,297
1950	3,444,578	2,380,577	69.1	1,064,001	30.9	1,062,762	30.9	1,239
1940	3,123,723	2,038,278	65.3	1,085,445	34.7	1,084,927	34.7	518
1930	2,908,506	1,837,021	63.2	1,071,485	36.8	1,071,125	36.8	360
1920	2,895,832	1,689,114	58.3	1,206,718	41.7	1,206,365	41.7	353
1910	2,609,121	1,431,802	54.9	1,177,319	45.1	1,176,987	45.1	332
1900	2,216,331	1,181,294	53.3	1,035,037	46.7	1,034,813	46.7	224
1890	1,837,353	978,357	53.2	858,996	46.8	858,815	46.7	181
1880	1,542,180	816,906	53.0	725,274	47.0	725,133	47.0	141
1870	1,184,109	638,926	54.0	545,183	46.0	545,142	46.0	41
1860	1,057,248	591,550	56.0	465,736	44.0	465,698	44.0	38
1850	906,185	521,572	57.6	384,613	42.4	384,613	42.4	—
1840	691,392	407,695	59.0	283,697	41.0	283,697	41.0	—
1830	516,823	296,806	57.4	220,017	42.6	220,017	42.6	—
1820	340,985	189,566	54.3	151,419	45.7	151,419	45.7	—
1810	252,433	145,414	57.6	107,019	42.4	107,019	42.4	—
1800	162,686	102,261	62.9	60,425	37.1	60,425	37.1	—
1790	82,548	52,886	64.1	29,662	35.9	29,662	35.9	—

Source: *United States Census of Population, 1960* PC(1), 12B—Georgia, U.S. Department of Commerce, Bureau of the Census, p. 36 and other selected Bureau of Census documents.

Table 6 Racial Composition of Georgia's Population, 1880-1960

Year	White		Negro		Other Races			
	Number	Percent	Number	Percent	Indian	Japanese	Chinese	All Other
1960	2,817,223	71.4	1,122,596	28.5	749	885	686	977
1950	2,380,577	69.1	1,062,762	30.9	333	128	511	267
1940	2,038,278	65.3	1,084,927	34.7	106	31	326	55
1930	1,837,021	63.2	1,071,125	36.8	43	32	253	32
1920	1,689,114	58.4	1,206,365	41.7	125	9	211	8
1910	1,431,802	54.9	1,176,987	45.1	95	4	233	
1900	1,181,294	53.3	1,034,813	46.7	19	1	204	
1890	978,357	53.3	858,815	46.7	68	5	108	
1880	816,906	53.0	725,133	47.0	124		17	

Table 7 The Foreign Born White Population of Georgia by Sex, 1880-1960

Year	Total	Percent Total Population of State	Males	Females
1960	23,888	0.6	9,782	14,106
1950	16,730	0.5	8,208	8,522
1940	11,916	0.4	6,845	5,071
1930	13,943	0.5	8,196	5,747
1920	16,186	0.6	10,004	6,182
1910	15,072	0.6	9,518	5,554
1900	12,021	0.5	7,283	4,738
1890	11,892	0.6	7,422	4,470
1880	10,333	0.7	6,292	4,041

Table 8 Median Age of the Population of Georgia by Sex and Race, 1880-1960

Year	Total Population	Whites		Nonwhites	
		Male	Female	Male	Female
1960	25.9	26.6	28.8	19.3	22.8
1950	26.2	26.8	28.0	22.0	24.1
1940	24.5	25.3	25.8	22.3	23.3
1930	21.9	22.4	22.7	20.3	21.3
1920	20.5	21.0	21.0	19.8	20.0
1910	19.7	20.3	20.3	19.0	19.1
1900	18.9	19.4	19.7	18.0	18.2
1890	18.0	18.3	19.1	17.1	17.5
1880	17.7	18.0	19.6	16.1	17.1

Table 9 Age Composition of the Population of Georgia, 1880-1960

Age	Percent Distribution								
	1960	1950	1940	1930	1920	1910	1900	1890	1880
Total All Ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 5 years	12.4	12.3	10.0	10.9	12.5	14.4	14.7	14.5	17.0
5-9 years	11.6	10.3	10.2	12.2	13.2	13.3	14.1	14.6	15.4
10-14 years	10.8	9.0	10.4	11.7	12.6	12.1	12.5	13.9	12.4
15-19 years	8.8	8.5	10.5	11.5	10.6	10.7	10.9	11.4	9.7
20-24 years	7.1	8.0	9.8	9.9	9.4	10.0	10.3	9.4	10.2
25-29 years	6.3	8.0	8.9	7.7	8.0	8.2	7.8	7.1	7.8
30-34 years	6.4	7.4	7.6	6.3	6.2	6.5	5.8	6.1	6.0
35-39 years	6.5	7.4	6.7	6.4	6.4	5.8	5.0	5.6	5.0
40-44 years	6.2	6.4	5.6	5.2	4.9	4.2	4.4	4.3	4.0
45-49 years	5.8	5.3	5.0	4.6	4.3	3.3	3.5	3.3	3.1
50-54 years	4.9	4.4	4.3	4.5	3.7	3.7	3.5	3.1	3.0
55-59 years	4.0	3.7	3.3	2.9	2.3	2.4	2.1	1.8	1.7
60-64 years	2.9	2.9	2.7	2.3	2.2	2.1	1.9	1.9	1.9
65,69 years	2.5	2.8	2.4	1.6	1.5	1.4	1.3	1.2	1.2
70-74 years	1.8	1.8	1.4	1.2	1.0	0.8	0.9	0.8	0.8
75 years and over	2.0	1.8	1.3	1.2	1.0	0.9	0.9	0.9	0.9
Not Reported				0.1	0.1	0.2	0.3	0.2	

Table 10 Number of Males Per 100 Females by Race, Georgia, 1880-1960

Year	Total Population	White			Negro
		Total	Native	Foreign Born	
1960	95.5	97.6	97.9	69.3	90.4
1950	96.2	98.7	98.8	96.3	90.6
1940	96.6	99.5	99.3	135.0	91.3
1930	97.3	100.5	100.2	142.6	92.1
1920	99.6	102.3	101.8	161.8	95.9
1910	100.1	102.4	101.9	171.4	97.2
1900	99.1	100.8	100.4	153.7	97.1
1890	100.3	100.2	99.6	166.0	100.3
1880	97.9	97.7	97.1	155.7	98.1

Table 11 Summary of Selected Vital Statistics, Georgia, 1927-1967

Year	Livebirths						Deaths					
	Number			Rate			Number			Rate		
	Total	White	Nonwhite	Total	White	Nonwhite	Total	White	Nonwhite	Total	White	Nonwhite
1927	62,246	39,281	22,965	21.4	21.9	20.7	31,869	16,230	15,639	11.0	9.0	14.1
1928	60,259	38,135	22,124	20.7	21.0	20.2	36,085	18,642	17,443	12.4	10.3	15.9
1929	58,521	35,751	22,770	20.1	19.6	21.1	35,340	18,245	17,095	12.2	10.0	15.8
1930	60,318	37,064	23,254	20.7	20.1	21.7	35,188	18,036	17,152	12.1	9.8	16.0
1931	61,774	37,531	24,243	21.0	19.9	22.5	32,989	17,012	15,977	11.2	9.2	14.8
1932	63,690	38,209	25,481	21.5	20.4	23.5	32,122	16,813	15,309	10.8	9.0	14.1
1933	60,744	35,692	25,052	20.4	18.8	23.0	31,184	16,847	14,337	10.4	8.9	13.2
1934	64,615	38,333	26,282	21.5	20.1	24.0	35,590	19,157	16,433	11.8	10.0	15.0
1935	63,290	37,345	25,945	20.9	19.4	23.6	34,313	18,677	15,636	11.3	9.7	14.2
1936	61,617	36,320	25,297	20.2	18.7	22.9	37,293	20,156	17,137	12.2	10.4	15.5
1937	64,012	38,181	25,831	20.8	19.4	23.2	34,411	18,493	15,918	10.8	9.4	14.3
1938	64,307	38,613	25,694	20.7	19.5	23.0	33,617	18,109	15,508	10.8	9.1	13.9
1939	64,910	38,923	25,987	20.8	19.5	23.1	31,856	17,486	14,370	10.2	8.7	12.8
1940	64,695	38,911	25,784	20.7	19.1	23.8	32,296	17,324	14,972	10.3	8.5	13.8
1941	67,785	41,277	26,508	21.6	20.1	24.4	31,579	16,717	14,862	10.0	8.1	13.7
1942	72,189	45,192	26,997	23.1	22.2	24.9	28,807	15,820	12,987	9.2	7.8	12.0
1943	78,327	50,149	28,178	25.1	24.6	26.0	29,488	16,414	13,074	9.4	8.0	12.0
1944	77,018	49,464	27,554	24.7	24.3	25.4	28,803	16,118	12,685	9.2	7.9	11.7
1945	74,994	47,422	27,572	24.0	23.3	25.4	28,456	16,310	12,146	9.1	8.0	11.2
1946	85,699	56,354	29,345	27.4	27.6	27.0	27,405	16,160	11,245	8.8	7.9	10.4
1947	94,311	62,394	31,917	29.2	29.2	29.2	28,780	17,022	11,758	8.9	8.0	10.8
1948	91,604	58,601	33,003	28.6	27.7	30.5	29,309	17,083	12,226	9.2	8.1	11.3
1949	93,557	58,659	34,898	29.0	27.4	32.2	29,537	17,351	12,186	9.2	8.1	11.3
1950	92,099	57,003	35,096	26.7	24.3	31.6	30,416	18,005	12,411	8.8	7.7	11.2
1951	95,161	59,285	35,876	26.7	24.1	32.6	30,802	18,161	12,641	8.6	7.4	11.5
1952	97,130	61,439	35,691	27.3	24.9	33.0	30,622	18,310	12,312	8.6	7.4	11.4
1953	97,421	61,671	35,750	27.0	24.5	32.9	30,754	18,521	12,233	8.5	7.4	11.3
1954	100,191	64,392	35,799	27.3	25.0	32.7	30,555	18,863	11,692	8.3	7.3	10.7
1955	100,295	64,238	36,057	26.8	24.6	32.2	30,838	19,136	11,702	8.3	7.3	10.4
1956	102,643	65,642	37,001	27.1	24.6	33.0	31,582	19,830	11,752	8.3	7.4	10.5

Table 11 (Continued)

Year	Livebirths						Deaths					
	Number			Rate			Number			Rate		
	Total	White	Nonwhite	Total	White	Nonwhite	Total	White	Nonwhite	Total	White	Nonwhite
1957	101,882	65,412	36,470	26.4	23.9	32.2	33,421	20,929	14,492	8.6	7.7	11.0
1958	99,780	64,097	35,683	25.4	23.0	31.2	33,249	21,044	12,205	8.5	7.5	10.7
1959	99,458	64,040	35,418	25.0	22.6	30.7	33,376	21,047	12,329	8.4	7.4	10.7
1960	99,707	64,419	35,288	25.2	22.8	31.3	35,324	22,526	12,798	8.9	8.0	11.4
1961	100,444	64,316	36,128	25.1	22.4	31.7	34,367	22,320	12,047	8.6	7.8	10.6
1962	99,047	63,778	35,269	24.2	21.7	30.6	36,051	23,504	12,547	8.8	8.0	10.9
1963	99,360	64,575	34,785	23.8	21.8	29.0	37,696	24,594	13,102	9.0	8.3	10.9
1964	100,581	65,093	35,488	23.8	21.5	29.6	37,512	24,607	12,905	8.9	8.1	10.8
1965	94,336	60,226	34,110	21.6	19.3	27.5	38,104	25,141	12,963	8.7	8.1	10.5
1966	89,376	57,855	31,521	20.0	18.1	24.9	38,465	25,745	12,720	8.6	8.1	10.0
1967	86,469	57,031	29,438	19.2	17.7	23.0	38,448	26,125	12,323	8.5	8.1	9.6

Table 12 Children Ever Born Per 100 Women Ever Married by Age, Color and Residence, Georgia, 1960

Age	Total			Nonwhites		
	Urban	Rural Nonfarm	Rural Farm	Urban	Rural Nonfarm	Rural Farm
Total, 15 years and over	2,484	3,256	3,921	2,932	4,223	4,978
15-19 years	756	816	889	1,212	1,162	1,214
20-24 years	1,408	1,634	1,863	2,164	2,326	2,427
25-29 years	2,200	2,526	2,860	2,781	3,613	3,885
30-34 years	2,588	3,048	3,568	3,211	4,347	5,295
35-39 years	2,609	3,343	3,857	3,133	4,968	5,708
40-44 years	2,522	3,460	4,079	2,999	4,885	6,080
45-49 years	2,352	3,388	4,100	2,668	4,444	5,772
50-54 years	2,339	3,420	3,995	2,582	4,155	5,089
55-59 years	2,596	3,754	4,115	2,808	4,247	4,845
60-64 years	2,868	4,116	4,432	3,110	4,384	4,892
65 years and over	3,616	4,751	5,148	3,908	5,105	5,577

Source: *United States Census of Population, 1960*, PC(1), 12D—Georgia, U.S. Department of Commerce, Bureau of the Census, p. 468-469.

Table 13 Trends in Marriages and Divorces, Georgia, 1953-1967

Year	Marriages*						Divorces and Annulments	
	Number			Rate				
	Total	White	Nonwhite	Total	White	Nonwhite	Number	Rate
1953	52,092	40,894	11,144	14.5	16.2	10.3	6,809	1.9
1954	51,698	41,149	10,495	14.1	16.0	9.6	7,041	1.9
1955	54,780	43,062	11,653	14.7	16.5	10.4	7,547	2.0
1956	52,221	41,398	10,769	13.8	15.5	9.6	7,751	2.0
1957	51,235	41,090	10,080	13.3	15.0	8.9	8,798	2.3
1958	47,219	37,863	9,304	12.0	13.6	8.1	7,975	2.0
1959	48,928	38,913	9,970	12.3	13.7	8.7	8,609	2.2
1960	49,448	39,400	9,983	12.5	13.9	8.9	8,930	2.3
1961	52,062	42,335	9,655	13.0	14.8	8.5	9,521	2.4
1962	53,553	43,334	10,162	13.1	14.7	8.8	9,841	2.4
1963	56,803	46,684	10,112	13.6	15.7	8.4	10,569	2.5
1964	60,228	49,691	10,535	14.3	16.4	8.8	11,312	2.7
1965	55,537	44,755	10,781	12.7	14.3	8.7	12,043	2.8
1966	54,502	43,678	10,823	12.2	13.7	8.5	12,921	2.9
1967	57,218	45,725	11,493	12.7	14.2	9.0	14,347	3.2

* Race breakdown does not add to total due to marriages of unknown race.

Table 14 Net Migration by Age and Race, Georgia, 1950-1960

Age in 1960	Number of Net Migrants			Rate of Net Migration		
	Total	White	Nonwhite	Total	White	Nonwhite
All Ages	–213,570	–9,273	–204,297	–5.0	–0.2	–15.3
0-4	–15,212	–5,867	–9,345	–3.0	–1.8	–5.3
5-9	–29,036	–6,823	–22,213	–6.1	–2.2	–12.7
10-14	–21,900	–1,605	–20,295	–5.0	–0.5	–13.2
15-19	–18,334	–365	–17,969	–5.1	–0.1	–14.8
20-24	–23,479	4,762	–28,241	–7.9	2.5	–27.8
25-29	–35,236	–3,717	–31,519	–12.2	–1.8	–33.1
30-34	–20,220	1,201	–21,421	–7.2	0.6	–25.6
35-39	–14,800	–87	–14,713	–5.3	—	–19.3
40-44	–7,684	683	–8,367	–2.9	0.4	–12.1
45-49	–9,631	–764	–8,867	–3.9	–0.3	–12.8
50-54	–6,134	–192	–5,942	–2.9	—	–10.7
55-59	–5,573	365	–5,938	–3.2	0.3	–12.5
60-64	–4,244	3	–4,247	–3.2	—	–12.0
65-69	2,505	1,149	1,356	2.3	1.4	4.6
70-74	2,761	1,570	1,191	3.5	2.7	6.1
75 & over	–7,317	426	–7,743	–7.0	0.6	–24.6

Table 15 Population of Georgia, Urban and Rural, 1790 to 1960

Census Date	Urban Territory				Rural Territory			Percent of Total	
	Number of Urban Places	Population	Increase Over Preceding Census		Population	Increase Over Preceding Census		Urban	Rural
			Number	Percent		Number	Percent		
Current Urban Definition									
1960	124	2,180,236	620,789	39.8	1,762,880	122,251	- 6.5	55.3	44.7
1950	106	1,559,447	—	—	1,885,131	—	—	45.3	54.7
Previous Urban Definition									
1960	120	1,963,012	536,806	37.6	1,980,104	-38,268	-1.9	49.8	50.2
1950	103	1,426,206	352,398	32.8	2,018,372	-31,543	-1.5	41.4	58.6
1940	78	1,073,808	178,316	19.9	2,049,915	36,901	1.8	34.4	65.6
1930	64	895,492	167,633	23.0	2,013,014	-154,959	-7.1	30.8	69.2
1920	59	727,859	189,209	35.1	2,167,973	97,502	4.7	25.1	74.9
1910	45	538,650	192,268	55.5	2,070,471	200,522	10.7	20.6	79.4
1900	31	346,382	88,910	34.5	1,869,949	290,068	18.4	15.6	84.4
1890	22	257,472	12,382	77.5	1,579,881	182,791	13.1	14.0	86.0
1880	14	145,090	45,037	45.0	1,397,090	313,034	28.9	9.4	90.6
1870	10	100,053	24,587	32.6	1,084,056	102,235	10.4	8.4	91.6
1860	9	75,466	36,472	93.5	981,820	114,629	13.2	7.1	92.9
1850	5	38,994	14,336	58.1	867,191	200,457	30.1	4.3	95.7
1840	4	24,658	10,645	76.0	666,734	163,924	32.6	3.6	96.4
1830	2	14,013	6,490	86.3	502,810	169,344	50.8	2.7	97.3
1820	1	7,523	2,308	44.3	333,466	86,248	34.9	2.2	97.8
1810	1	5,215	69	1.3	247,218	89,678	56.9	2.1	97.9
1800	1	5,146	5,146	—	157,540	74,992	90.8	3.2	96.8
1790	—	—	—	—	82,548	—	—	—	100.0

Table 16 Population Growth in Georgia 1890-1960 by Race and Residence

Year	Urban		Percent of State's Nonwhites in Urban Areas	Percent of State's Whites in Urban Areas	Rural	
	Total	Percent Nonwhite			Total	Percent Nonwhite
1960	2,180,056	29.6	57.5	54.4	1,762,880	27.2
1950	1,559,447	31.5	46.2	44.9	1,885,131	30.4
1940	1,073,808	35.4	35.0	34.0	2,049,915	34.4
1930	895,492	35.4	29.6	31.5	2,013,014	37.5
1920	727,859	37.5	22.6	26.9	2,167,973	43.1
1910	538,650	41.8	19.1	21.9	2,070,471	46.0
1900	346,382	46.6	15.6	15.7	1,869,949	46.7
1890	257,472	48.1	14.4	13.7	1,579,881	46.5

Source: *United States Census of Population, 1960*, PC(1), 12B—Georgia, U.S. Department of Commerce, Bureau of the Census, p. 35.
Sixteenth Census of the United States, Volume II, Part 2, U.S. Department of Commerce, Bureau of the Census, 1940, p. 187.
Thirteenth Census of the United States, Volume I. U.S. Department of Commerce, Bureau of the Census, 1910, p. 193.

Table 17

Changes in the Total Population of Each County During Each Decade, 1930-1960

County	Population				Population Change							
					1930-1940		1940-1950		1950-1960		1930-1960	
	1930	1940	1950	1960	Numerical	%	Numerical	%	Numerical	%	Numerical	%
Appling	13,314	14,497	14,003	13,246	1,183	8.9	–494	–3.4	–757	–5.4	–68	–0.5
Atkinson	6,894	7,093	7,362	6,188	199	2.9	269	3.8	–1,174	–15.9	–706	–10.2
Bacon	7,055	8,096	8,940	8,359	1,041	14.8	844	10.4	–581	–6.5	1,304	18.5
Baker	7,818	7,344	5,952	4,543	–474	–6.1	–1,392	–19.0	–1,409	–23.7	–3,275	–41.9
Baldwin	22,878	24,190	29,706	34,064	1,312	5.7	5,516	22.8	4,358	14.7	11,186	48.9
Banks	9,703	8,733	6,935	6,497	–970	–10.0	–1,798	–20.6	–438	–6.3	–3,206	–33.0
Barrow	12,401	13,064	13,115	14,485	663	5.3	51	0.4	1,370	10.4	2,084	16.8
Bartow	25,364	25,283	27,370	28,267	–81	–0.3	2,087	8.3	897	3.3	2,903	11.4
Ben Hill	13,047	14,523	14,879	13,633	1,476	11.3	356	2.5	–1,246	–8.4	586	4.5
Berrien	14,646	15,370	13,966	12,038	724	4.9	–1,404	–9.1	–1,928	–13.8	–2,608	–17.8
Bibb	77,042	83,783	114,079	141,249	6,741	8.7	30,296	36.2	27,170	23.8	64,207	83.3
Bleckley	9,133	9,655	9,218	9,642	522	5.7	–437	–4.5	424	4.6	509	5.6
Brantley	6,895	6,871	6,387	5,891	–24	–0.3	–484	–7.0	–496	–7.8	–1,004	–14.6
Brooks	21,330	20,497	18,169	15,292	–833	–3.9	–2,328	–11.4	–2,877	–15.8	–6,038	–28.3
Bryan	5,952	6,288	5,965	6,226	336	5.6	–323	–5.1	261	4.4	274	4.6
Bulloch	26,509	26,010	24,740	24,263	–499	–1.9	–1,270	–4.9	–477	–1.9	–2,246	–8.5
Burke	29,224	26,520	23,458	20,596	–2,704	–9.3	–3,062	–11.5	–2,862	–12.2	–8,628	–29.5
Butts	9,345	9,182	9,079	8,976	–163	–1.7	–103	–1.1	–103	–1.1	–369	–3.9
Calhoun	10,576	10,438	8,578	7,341	–138	–1.3	–1,860	–17.8	–1,237	–14.4	–3,235	–30.6
Camden	6,338	5,910	7,322	9,975	–428	–6.8	1,412	23.9	2,653	36.2	3,637	57.4
Candler	8,991	9,103	8,063	6,672	112	1.2	–1,040	–11.4	–1,391	–17.3	–2,319	–25.8
Carroll	34,272	34,156	34,112	36,451	–116	–0.3	–44	–0.1	2,339	6.9	2,179	6.4
Catoosa	9,421	12,119	15,146	21,101	2,698	28.6	3,027	25.0	5,955	39.3	11,680	124.0
Charlton	4,381	5,256	4,821	5,313	875	20.0	–435	–8.3	492	10.2	932	21.3
Chatham	105,431	117,970	151,481	188,299	12,539	11.9	33,511	28.4	36,818	24.3	82,868	78.6
Chattahoochee	8,894	15,138	12,149	13,011	6,244	70.2	–2,989	–19.7	862	7.1	4,117	46.3
Chattooga	15,407	18,532	21,197	19,954	3,125	20.3	2,665	14.4	–1,243	–5.9	4,547	29.5
Cherokee	20,003	20,126	20,750	23,001	123	0.6	624	3.1	2,251	10.8	2,998	15.0
Clarke	25,613	28,398	36,550	45,363	2,785	10.9	8,152	28.7	8,813	24.1	19,750	77.1
Clay	6,943	7,064	5,844	4,551	121	1.7	–1,220	–17.3	–1,293	–22.1	–2,392	–34.5
Clayton	10,260	11,655	22,872	46,365	1,395	13.6	11,217	96.2	23,493	102.7	36,105	351.9
Clinch	7,015	6,437	6,007	6,545	–578	–8.2	–430	–6.7	538	9.0	–470	–6.7

Table 17 (Continued)

County	Population				Population Change							
					1930-1940		1940-1950		1950-1960		1930-1960	
	1930	1940	1950	1960	Numerical	%	Numerical	%	Numerical	%	Numerical	%
Cobb	35,408	38,272	61,830	114,174	2,864	8.1	23,558	61.6	52,344	84.7	78,766	222.5
Coffee	19,739	21,541	23,961	21,953	1,802	9.1	2,420	11.2	–2,008	–8.4	2,214	11.2
Colquitt	30,622	33,012	33,999	34,048	2,390	7.8	987	3.0	49	0.1	3,426	11.2
Columbia	8,793	9,433	9,525	13,423	640	7.3	92	1.0	3,898	40.9	4,630	52.7
Cook	11,311	11,919	12,201	11,822	608	5.4	282	2.4	–379	–3.1	511	4.5
Coweta	25,127	26,972	27,786	28,893	1,845	7.3	814	3.0	1,107	4.0	3,766	15.0
Crawford	7,020	7,128	6,080	5,816	108	1.5	–1,048	–14.7	–264	4.3	–1,204	–17.2
Crisp	17,343	17,540	17,663	17,768	197	1.1	123	0.7	105	0.6	425	2.5
Dade	4,146	5,894	7,364	8,666	1,748	42.2	1,470	24.9	1,302	17.7	4,520	109.0
Dawson	3,502	4,479	3,712	3,590	977	27.9	–767	–17.1	–122	–3.3	88	2.5
Decatur	23,622	22,234	23,620	25,203	–1,388	–5.9	1,386	6.2	1,583	6.7	1,581	6.7
De Kalb	70,278	86,942	136,395	256,782	16,664	23.7	49,453	56.9	120,387	88.3	186,504	265.4
Dodge	21,599	21,022	17,865	16,483	–577	–2.7	–3,157	–15.0	–1,382	–7.7	–5,116	–23.7
Dooly	18,025	16,886	14,159	11,474	–1,139	–6.3	–2,727	–16.1	–2,685	–19.0	–6,551	–36.3
Dougherty	22,306	28,565	43,617	75,680	6,259	28.1	15,052	52.7	32,063	73.5	53,374	239.3
Douglas	9,461	10,053	12,173	16,741	592	6.3	2,120	21.1	4,568	37.5	7,280	76.9
Early	18,273	18,679	17,413	13,151	406	2.2	–1,266	–6.8	–4,262	–24.5	–5,122	–28.0
Echols	2,744	2,964	2,494	1,876	220	8.0	–470	–15.9	–618	–24.8	–868	–31.6
Effingham	10,164	9,646	9,133	10,144	–518	–5.1	–513	–5.3	1,011	11.1	–20	0.2
Elbert	18,485	19,618	18,585	17,835	1,133	6.1	–1,033	–5.3	–750	–4.0	–650	–3.5
Emanuel	24,101	23,517	19,789	17,815	–584	–2.4	–3,728	–15.9	–1,974	–10.0	–6,286	–26.1
Evans	7,102	7,401	6,653	6,952	299	4.2	–748	–10.1	299	4.5	–150	–2.1
Fannin	12,969	14,752	15,192	13,620	1,783	13.7	440	3.0	–1,572	–10.3	651	5.0
Fayette	8,665	8,170	7,978	8,199	–495	–5.7	–192	–2.4	221	2.8	–466	–5.4
Floyd	48,667	56,141	62,899	69,130	7,474	15.4	6,758	12.0	6,231	9.9	20,463	42.0
Forsyth	10,624	11,322	11,005	12,170	698	6.6	–317	–2.8	1,165	10.6	1,546	14.6
Franklin	15,902	15,612	14,446	13,274	–290	–1.8	–1,166	–7.5	–1,172	–8.1	–2,628	–16.5
Fulton	335,220	392,886	473,572	556,326	57,666	17.2	80,686	20.5	82,754	17.5	221,106	66.0
Gilmer	7,344	9,001	9,963	8,922	1,657	22.6	962	10.7	–1,041	–10.4	1,578	21.5
Glascock	4,388	4,547	3,579	2,672	159	3.6	–968	–21.3	–907	–25.3	–1,716	–39.1
Glynn	19,400	21,920	29,046	41,954	2,520	13.0	7,126	32.5	12,908	44.4	22,554	116.3
Gordon	16,846	18,445	18,922	19,228	1,599	9.5	477	2.6	306	1.6	2,382	14.1

Table 17 (Continued)

County	Population				Population Change							
					1930-1940		1940-1950		1950-1960		1930-1960	
	1930	1940	1950	1960	Numerical	%	Numerical	%	Numerical	%	Numerical	%
Grady	19,200	19,654	18,928	18,015	454	2.4	–726	–3.7	–913	–4.8	–1,185	–6.2
Greene	12,616	13,709	12,843	11,193	1,093	8.7	–866	–6.3	–1,650	–12.8	–1,423	–11.3
Gwinnett	27,853	29,087	32,320	43,541	1,234	4.4	3,233	11.1	11,221	34.7	15,688	56.3
Habersham	12,748	14,771	16,553	18,116	2,023	15.9	1,782	12.1	1,563	9.4	5,368	42.1
Hall	30,313	34,822	40,113	49,739	4,509	14.9	5,291	15.2	9,626	24.0	19,426	64.1
Hancock	13,070	12,764	11,052	9,979	–306	–2.3	–1,712	–13.4	–1,073	–9.7	–3,091	–23.6
Haralson	13,263	14,377	14,663	14,543	1,114	8.4	286	2.0	–120	–0.8	1,280	9.7
Harris	11,140	11,428	11,265	11,167	288	2.6	–163	–1.4	–98	–0.9	27	0.2
Hart	15,174	15,512	14,495	15,229	338	2.2	–1,017	–6.6	734	5.1	55	0.4
Heard	9,102	8,610	6,975	5,333	–492	–5.4	–1,635	–19.0	–1,642	–23.5	–3,769	–41.4
Henry	15,924	15,119	15,857	17,619	–805	–5.1	738	4.9	1,762	11.1	1,695	10.6
Houston	11,280	11,303	20,964	39,154	23	0.2	9,661	85.5	18,190	86.8	27,874	247.1
Irwin	12,199	12,936	11,973	9,211	737	6.0	–963	–7.4	–2,762	–23.1	–2,988	–24.5
Jackson	21,609	20,089	18,997	18,499	–1,520	–7.0	–1,092	–5.4	–498	–2.6	3,110	–14.4
Jasper	8,594	8,772	7,473	6,135	178	2.1	–1,299	–14.8	–1,338	–17.9	–2,459	–28.6
Jeff Davis	8,118	8,841	9,299	8,914	723	8.9	458	5.2	–385	–4.1	796	9.8
Jefferson	20,727	20,040	18,855	17,468	–687	–3.3	–1,185	–5.9	–1,387	–7.4	–3,259	–15.7
Jenkins	12,908	11,843	10,264	9,148	–1,065	–8.3	–1,579	–13.3	–1,116	–10.9	–3,760	–29.1
Johnson	12,681	12,953	9,893	8,048	272	2.1	–3,060	–23.6	–1,845	–18.6	–4,633	–36.5
Jones	8,992	8,331	7,538	8,468	–661	–7.4	–793	–9.5	930	12.3	–524	–5.8
Lamar	9,745	10,091	10,242	10,240	346	3.6	151	1.5	–2	–0.0	495	5.1
Lanier	5,190	5,632	5,151	5,097	442	8.5	–481	–8.5	–54	–1.0	–93	–1.8
Laurens	32,693	33,606	33,123	32,313	913	2.8	–483	–1.4	–810	–2.4	–380	–1.2
Lee	8,328	7,837	6,674	6,204	–491	–5.9	–1,163	–14.8	–470	–7.0	–2,124	–25.5
Liberty	8,153	8,595	8,444	14,487	442	5.4	–151	–1.8	6,043	71.6	6,334	77.7
Lincoln	7,847	7,042	6,462	5,906	–805	–10.3	–580	–8.2	–556	–8.6	–1,941	–24.7
Long	4,180	4,086	3,598	3,874	–94	–2.2	–488	–11.9	276	7.7	–306	–7.3
Lowndes	29,994	31,860	35,211	49,270	1,866	6.2	3,351	10.5	14,059	39.9	19,276	64.3
Lumpkin	4,927	6,223	6,574	7,241	1,296	26.3	351	5.6	667	10.1	2,314	47.0
McDuffie	9,014	10,878	11,443	12,627	1,864	20.7	565	5.2	1,184	10.3	3,613	40.1
McIntosh	5,763	5,292	6,008	6,364	–471	–8.2	716	13.5	356	5.9	601	10.4
Macon	16,643	15,947	14,213	13,170	–696	–4.2	–1,734	–10.9	–1,043	–7.3	–3,473	–20.9

Table 17 (Continued)

County	Population				Population Change							
					1930-1940		1940-1950		1950-1960		1930-1960	
	1930	1940	1950	1960	Numerical	%	Numerical	%	Numerical	%	Numerical	%
Madison	14,921	13,431	12,238	11,246	–1,490	–10.0	–1,193	–8.9	–992	–8.1	–3,675	–24.6
Marion	6,968	6,954	6,521	5,477	–14	–0.2	–433	–6.2	–1,044	–16.0	–1,491	–21.4
Meriwether	22,437	22,055	21,055	19,756	–382	–1.7	–1,000	–4.5	–1,299	–6.2	–2,681	–11.9
Miller	9,076	9,998	9,023	6,908	922	10.2	–975	–9.8	–2,115	–23.4	–2,168	–23.9
Mitchell	23,620	23,261	22,528	19,652	–359	–1.5	–733	–3.2	–2,876	–12.8	–3,968	–16.8
Monroe	11,606	10,749	10,523	10,495	–857	–7.4	–226	–2.1	–28	–0.3	–1,111	–9.6
Montgomery	10,020	9,668	7,901	6,284	–352	–3.5	–1,767	–18.3	–1,617	–20.5	–3,736	–37.3
Morgan	12,488	12,713	11,899	10,280	225	1.8	–814	–6.4	–1,619	–13.6	–2,208	–17.7
Murray	9,215	11,137	10,676	10,447	1,922	20.9	–461	–4.1	–229	–2.1	1,232	13.4
Muscogee	57,558	75,494	118,028	158,623	17,936	31.2	42,534	56.3	40,595	34.4	101,065	175.6
Newton	17,290	18,576	20,185	20,999	1,286	7.4	1,609	8.7	814	4.0	3,709	21.5
Oconee	8,082	7,576	7,009	6,304	–506	–6.3	–567	–7.5	–705	–10.1	–1,778	–22.0
Oglethorpe	12,927	12,430	9,958	7,926	–497	–3.8	–2,472	–19.9	–2,032	–20.4	–5,001	–38.7
Paulding	12,327	12,832	11,752	13,101	505	4.1	–1,080	–8.4	1,349	11.5	774	6.3
Peach	10,268	10,378	11,705	13,846	110	1.1	1,327	12.8	2,141	18.3	3,578	34.8
Pickens	9,687	9,136	8,855	8,903	–551	–5.7	–281	–3.1	48	0.5	–784	–8.1
Pierce	12,522	11,800	11,112	9,678	–722	–5.8	–688	–5.8	–1,434	–12.9	–2,844	–22.7
Pike	10,853	10,375	8,459	7,138	–478	–4.4	–1,916	–18.5	–1,321	–15.6	–3,715	–34.2
Polk	25,141	28,467	30,976	28,015	3,326	13.2	2,509	8.8	–2,961	–9.6	2,874	11.4
Pulaski	9,005	9,829	8,808	8,204	824	9.2	–1,021	–10.4	–604	–6.9	–801	–8.9
Putnam	8,367	8,514	7,731	7,798	147	1.8	–783	–9.2	67	0.9	–569	–6.8
Quitman	3,820	3,435	3,015	2,432	–385	–10.1	–420	–12.2	–583	–19.3	–1,388	–36.3
Rabun	6,331	7,821	7,424	7,456	1,490	23.5	–397	–5.1	32	0.4	1,125	17.8
Randolph	17,174	16,609	13,804	11,078	–565	–3.3	–2,805	–16.9	–2,726	–19.7	–6,096	–35.5
Richmond	72,990	81,863	108,876	135,601	8,873	12.2	27,013	33.0	26,725	24.5	62,611	85.8
Rockdale	7,247	7,724	8,464	10,572	477	6.6	740	9.6	2,108	24.9	3,325	45.9
Schley	5,347	5,033	4,036	3,256	–314	–5.9	–997	–19.8	–780	–19.3	–2,091	–39.1
Screven	20,503	20,353	18,000	14,919	–150	–0.7	–2,353	–11.6	–3,081	–17.1	–5,584	–27.2
Seminole	7,389	8,492	7,904	6,802	1,103	14.9	–588	–6.9	–1,102	–13.9	–587	–7.9
Spalding	23,495	28,427	31,045	35,904	4,932	21.0	2,618	9.2	4,859	15.7	12,409	52.8
Stephens	11,740	12,972	16,647	18,391	1,232	10.5	3,675	28.3	1,744	10.5	6,651	56.7
Stewart	11,114	10,603	9,194	7,371	–511	–4.6	–1,409	–13.3	–1,823	–19.8	–3,743	–33.7

Table 17 (Continued)

County	Population				Population Change							
					1930-1940		1940-1950		1950-1960		1930-1960	
	1930	1940	1950	1960	Numerical	%	Numerical	%	Numerical	%	Numerical	%
Sumter	26,800	24,502	24,208	24,652	–2,298	–8.6	–294	–1.2	444	1.8	–2,148	–8.0
Talbot	8,458	8,141	7,687	7,127	–317	–3.7	–454	–5.6	–560	–7.3	–1,331	–15.7
Taliaferro	6,172	6,278	4,515	3,370	106	1.7	–1,763	–28.1	–1,145	–25.4	–2,802	–45.4
Tattnall	15,411	16,243	15,939	15,837	832	5.4	–304	–1.9	–102	–0.6	426	2.8
Taylor	10,617	10,768	9,113	8,311	151	1.4	–1,655	–15.4	–802	–8.8	–2,306	–21.7
Telfair	14,997	15,145	13,221	11,715	148	1.0	–1,924	–12.7	–1,506	–11.4	–3,282	–21.9
Terrell	18,290	16,675	14,314	12,742	–1,615	–8.8	–2,361	–14.2	–1,572	–11.0	–5,548	–30.3
Thomas	32,612	31,289	33,932	34,319	–1,323	–4.1	2,643	8.4	387	1.1	1,707	5.2
Tift	16,068	18,599	22,645	23,487	2,531	15.8	4,046	21.8	842	3.7	7,419	46.2
Toombs	17,165	16,952	17,382	16,837	–213	–1.2	430	2.5	–545	–3.1	–328	–1.9
Towns	4,346	4,925	4,803	4,538	579	13.3	–122	–2.5	–265	–5.5	192	4.4
Treutlen	7,488	7,632	6,522	5,874	144	1.9	–1,110	–14.5	–648	–9.9	–1,614	–21.6
Troup	36,752	43,879	49,841	47,189	7,127	19.4	5,962	13.6	–2,652	–5.3	10,437	28.4
Turner	11,196	10,846	10,479	8,439	–350	–3.1	–367	–3.4	–2,040	–19.5	–2,757	–24.6
Twiggs	8,372	9,117	8,308	7,935	745	8.9	–809	–8.9	–373	–4.5	–437	–5.2
Union	6,340	7,680	7,318	6,510	1,340	21.1	–362	–4.7	–808	–11.0	170	2.7
Upson	19,509	25,064	25,078	23,800	5,555	28.5	14	0.1	–1,278	–5.1	4,291	22.0
Walker	26,206	31,024	38,198	45,264	4,818	18.4	7,174	23.1	7,066	18.5	19,058	72.7
Walton	21,118	20,777	20,230	20,481	–341	–1.6	–547	–2.6	251	1.2	–637	–3.0
Ware	26,558	27,929	30,289	34,219	1,371	5.2	2,360	8.4	3,930	13.0	7,661	28.8
Warren	11,181	10,236	8,779	7,360	–945	–8.5	–1,457	–14.2	–1,419	–16.2	–3,821	–34.2
Washington	25,030	24,230	21,012	18,903	–800	–3.2	–3,218	–13.3	–2,109	–10.0	–6,127	–24.5
Wayne	12,647	13,122	14,248	17,921	475	3.8	1,126	8.6	3,673	25.8	5,274	41.7
Webster	5,032	4,726	4,081	3,247	–306	–6.1	–645	–13.6	–834	–20.4	–1,785	–35.5
Wheeler	9,149	8,535	6,712	5,342	–614	–6.7	–1,823	–21.4	–1,370	–20.4	–3,807	–41.6
White	6,056	6,417	5,951	6,935	361	6.0	–466	–7.3	984	16.5	879	14.5
Whitfield	20,808	26,105	34,432	42,109	5,297	25.5	8,327	31.9	7,677	22.3	21,301	102.4
Wilcox	13,439	12,755	10,167	7,905	–684	–5.1	–2,588	–20.3	–2,262	–22.2	–5,534	–41.2
Wilkes	15,944	15,084	12,388	10,961	–860	–5.4	–2,696	–17.9	–1,427	–11.5	–4,983	–31.3
Wilkinson	10,844	11,025	9,781	9,250	181	1.7	–1,244	–11.3	–531	–5.4	–1,594	–14.7
Worth	21,094	21,374	19,357	16,682	280	1.3	–2,017	–9.4	–2,675	–13.8	–4,412	–20.9
STATE	2,908,506	3,123,723	3,444,578	3,943,116	215,217	7.4	320,855	10.3	498,538	14.5	1,034,610	35.6

Table 18 Population Estimates and Projections for Georgia, 1960-1985

Projection Series	Year (Population in Thousands) 1960	1965	1970	1975	1980	1985
I B	3,943	4,391	4,741	5,142	5,563	5,961
I D	3,943	4,391	4,679	4,928	5,172	5,400
II B	3,943	4,391	4,740	5,147	5,593	6,048
II D	3,943	4,391	4,678	4,933	5,200	5,477
B Fertility[1]	3,943	4,391	4,728	5,158	5,659	6,202
D Fertility[1]	3,943	4,391	4,667	4,942	5,257	5,609

[1] Each of these two projections assumes no net migration after 1965.

Source: Bureau of the Census, *Current Population Reports, Population Estimates*, "Projections of the Population of Metropolitan Areas: 1975," Series P-25, No. 415, January 31, 1969, and "Revised Projections of the Population of States 1970 to 1985," Series P-25, No. 375, October 3, 1967.

Table 19 Population Estimates and Projections for Georgia, by Age, 1960 to 1985

Age and Projection Series	Year 1960	1965	1970 (Population in Thousands)	1975	1980	1985	Change, 1960-1985 Numerical	Percent
Under 18								
I B	1,533	1,692	1,766	1,897	2,059	2,265	732	48
II B	1,533	1,692	1,766	1,900	2,073	2,302	769	50
I D	1,533	1,692	1,705	1,683	1,669	1,712	179	12
II D	1,533	1,692	1,704	1,685	1,679	1,739	206	13
18-44								
I B	1,407	1,584	1,763	1,953	2,156	2,300	893	63
II B	1,407	1,584	1,762	1,955	2,170	2,341	934	66
I D	1,407	1,584	1,763	1,953	2,157	2,292	885	63
II D	1,407	1,584	1,762	1,955	2,170	2,332	925	66
45-64								
I B	713	795	859	896	904	911	198	28
II B	713	795	859	897	907	919	206	29
I D	713	795	859	896	904	911	198	28
II D	713	795	859	897	907	919	206	29
65 and over								
I B	291	319	353	395	443	485	194	67
II B	291	319	353	396	444	487	196	67
I D	291	319	353	395	443	485	194	67
II D	291	319	353	396	444	487	196	67
Total								
I B	3,943	4,390	4,741	5,142	5,563	5,961	2,018	51
II B	3,943	4,390	4,740	5,147	5,593	6,048	2,105	53
I D	3,943	4,390	4,679	4,928	5,172	5,400	1,457	37
II D	3,943	4,390	4,678	4,933	5,200	5,477	1,534	39

Source: Bureau of the Census, *Current Population Reports, Population Estimates*, Series P-25, No. 375, October 3, 1967, Table 5.

Table 20 Population Estimates and Projections for Georgia, for Selected Preschool and School Ages, 1960 to 1985

Age and Projection Series	Year						Change, 1960-1985	
	1960	1965	1970	1975	1980	1985	Numerical	Percent
	(Population in Thousands)							
Under 5								
I B	472	503	500	602	676	712	240	51
I D	472	503	500	449	496	533	61	13
5-13								
I B	783	843	895	897	996	1,138	355	45
I D	783	843	895	836	786	840	57	7
14-17								
I B	278	346	371	398	387	415	137	49
I D	278	346	371	398	387	339	61	22
18-21								
I B	233	316	366	396	418	391	158	68
I D	233	316	366	396	418	382	149	64

Source: Bureau of the Census, *Current Population Reports, Population Estimates,* Series P-25, No. 375, October 3, 1967, Tables 5 and A-4.

Table 21 Sex Ratios of Georgia's Population, by Age, 1960 to 1985

Age and Projection Series	Males						Females						Sex Ratio					
	1960	1965	1970	1975	1980	1985	1960	1965	1970	1975	1980	1985	1960	1965	1970	1975	1980	1985
	(Population in Thousands)																	
Under 18																		
I B	776	858	895	963	1,047	1,151	757	835	871	934	1,012	1,113	102.5	102.8	102.8	103.1	103.5	103.4
II B	776	858	895	965	1,054	1,171	757	835	871	935	1,019	1,131	102.5	102.8	102.8	103.2	103.4	103.5
I D	776	858	864	855	848	870	757	835	841	829	820	841	102.5	102.8	102.7	103.1	103.4	103.4
II D	776	858	864	856	854	885	757	835	840	830	825	855	102.5	102.8	102.9	103.1	103.5	103.5
18-44																		
I B	688	784	877	974	1,078	1,153	719	800	886	979	1,079	1,147	95.7	98.0	99.0	99.5	99.9	100.5
II B	688	784	877	977	1,087	1,179	719	800	885	978	1,082	1,162	95.7	98.0	99.1	99.9	100.5	101.5
I D	688	784	877	974	1,078	1,149	719	800	886	979	1,079	1,143	95.7	98.0	99.0	99.5	99.9	100.5
II D	688	784	877	977	1,087	1,175	719	800	885	978	1,082	1,158	95.7	98.0	99.1	99.9	100.5	101.5
45-64																		
I D	339	378	404	417	416	416	374	417	455	480	487	495	90.6	90.6	88.8	86.9	85.4	84.0
II B	339	378	404	417	418	419	374	417	455	480	489	499	90.6	90.6	88.8	86.9	85.5	84.0
I D	339	378	404	417	416	416	374	417	455	480	487	495	90.6	90.6	88.8	86.9	85.4	84.0
II D	339	378	404	417	418	419	374	417	455	480	489	499	90.6	90.6	88.8	86.9	85.5	84.0
65 and over																		
I B	123	131	143	160	179	194	168	188	210	235	264	291	73.2	69.7	68.1	68.1	67.8	66.7
II B	123	131	143	160	179	195	168	188	210	236	265	292	73.2	69.7	68.1	67.8	67.5	66.8
I D	123	131	143	160	179	194	168	188	210	235	264	291	73.2	69.7	68.1	68.1	67.8	66.7
II D	123	131	143	160	179	195	168	188	210	236	265	292	73.2	69.7	68.1	67.8	67.5	66.8
Total																		
I B	1,926	2,151	2,319	2,514	2,720	2,915	2,017	2,239	2,422	2,628	2,843	3,046	95.5	96.1	95.7	95.7	95.7	95.7
II B	1,926	2,151	2,319	2,518	2,738	2,964	2,017	2,239	2,421	2,629	2,855	3,084	95.5	96.1	95.8	95.8	95.9	96.1
I D	1,926	2,151	2,288	2,405	2,521	2,630	2,017	2,239	2,391	2,523	2,651	2,770	95.5	96.1	95.7	95.3	95.1	94.9
II D	1,926	2,151	2,288	2,409	2,538	2,674	2,017	2,239	2,390	2,524	2,661	2,803	95.5	96.1	95.7	95.4	95.4	95.4

Source: Bureau of the Census, *Current Population Reports, PopulationEstimates,* Series P-25, No. 375, October 3, 1967, Table 6.

Table 22 Projected Population Changes, by Color and Age, Georgia, 1960 to 1985

Age, Color, and Population Series	White			Nonwhite			Change, 1960-1985				Percent Nonwhite		
	1960	1975	1985	1960	1975	1985	Numerical		Percentage		1960	1975	1985
							White	Nonwhite	White	Nonwhite			
	(Population in Thousands)												
Under 18													
I B	1,020	1,263	1,504	513	634	761	484	248	47	48	33.5	33.4	33.6
II B	1,020	1,259	1,508	513	641	794	488	281	48	55	33.5	33.7	34.5
I D	1,020	1,128	1,159	513	555	553	139	40	14	8	33.5	33.0	32.3
II D	1,020	1,124	1,162	513	561	577	142	64	14	12	33.5	33.3	33.2
18-44													
I B	1,050	1,447	1,677	357	506	623	627	266	60	75	25.4	25.9	27.1
II B	1,050	1,442	1,687	357	513	654	637	297	61	83	25.4	26.2	27.9
I D	1,050	1,447	1,672	357	506	620	622	263	59	74	25.4	25.9	27.1
II D	1,050	1,442	1,681	357	513	651	631	294	60	82	25.4	26.2	27.9
45-64													
I B	532	698	714	181	198	197	182	16	34	9	25.4	22.1	21.6
II B	532	699	718	181	198	201	186	20	35	11	25.4	22.1	21.9
I D	532	698	714	181	198	197	182	16	34	9	25.4	22.1	21.6
II D	532	699	718	181	198	201	186	20	35	11	25.4	22.1	21.9
65 and over													
I B	216	305	382	75	90	103	166	28	77	37	25.8	22.8	21.2
II B	216	306	383	75	90	104	167	29	77	39	25.8	22.8	21.4
I D	216	305	382	75	90	103	166	28	77	37	25.8	22.8	21.2
II D	216	306	383	75	90	104	167	29	77	39	25.8	22.7	21.4
Total													
I B	2,817	3,714	4,276	1,126	1,428	1,685	1,459	559	52	50	28.6	27.8	28.3
II B	2,817	3,704	4,295	1,126	1,443	1,753	1,478	627	52	56	28.6	28.0	29.0
I D	2,817	3,579	3,926	1,126	1,349	1,474	1,109	348	39	31	28.6	27.4	27.3
II D	2,817	3,571	3,944	1,126	1,362	1,533	1,127	407	40	36	28.6	27.6	28.0

Source: Bureau of the Census, *Current Population Reports, Population Estimates,* Series P-25, No. 375, October 3, 1967, Table 6.

Table 23 Population Estimates and Projections, by County, 1960 to 1975

County	Year				Change, 1960-1975	
	1960	1965	1970	1975	Numerical	Percent
Appling	13,246	13,749	13,796	13,586	340	2.6
Atkinson	6,188	6,302	6,119	5,724	–464	–7.5
Bacon	8,359	8,218	7,933	7,581	–778	–9.3
Baker	4,543	3,861	3,213	2,571	–1,972	–43.4
Baldwin	34,064	38,656	43,296	46,339	12,275	36.0
Banks	6,497	7,270	7,812	8,239	1,742	26.8
Barrow	14,485	15,572	16,393	17,393	2,908	20.1
Bartow	28,267	31,624	34,154	36,549	8,282	29.3
Ben Hill	13,633	13,575	13,177	12,606	–1,027	–7.5
Berrien	12,038	10,738	9,510	8,410	–3,628	–30.1
Bibb	141,249	153,181	163,582	176,888	35,639	25.2
Bleckley	9,642	10,182	10,535	10,961	1,319	13.7
Brantley	5,891	5,724	5,474	5,186	–705	–12.0
Brooks	15,292	14,311	13,040	11,629	–3,663	–24.0
Bryan	6,226	6,634	6,827	7,009	783	12.6
Bulloch	24,263	27,204	29,188	30,578	6,315	26.0
Burke	20,596	19,742	18,452	16,922	–3,674	–17.8
Butts	8,976	9,681	10,119	10,471	1,495	16.6
Calhoun	7,341	7,099	6,731	6,234	–1,107	–15.1
Camden	9,975	11,165	12,619	14,741	4,766	47.8
Candler	6,672	6,711	6,469	5,978	–694	–10.4
Carroll	36,451	40,239	43,162	46,319	9,868	27.1
Catossa	21,101	24,951	28,841	33,891	12,790	60.6
Charlton	5,313	5,570	5,797	6,112	799	15.0
Chatham	188,299	200,224	208.812	222,377	34,078	18.1
Chattahoochee*						
Chattooga	19,954	19,762	19,223	18,635	–1,319	–6.6
Cherokee	23,001	25,869	27,951	30,229	7,228	31.4
Clarke	45,363	52,904	60,987	70,687	25,324	55.8
Clay	4,551	4,339	4,039	3,600	–951	–20.9
Clayton	46,365	68,217	92,514	121,954	75,589	163.0
Clinch	6,545	7,316	7,856	8,382	1,837	28.1
Cobb	114,174	154,323	199,279	247,668	133,494	116.9
Coffee	21,953	21,470	20,485	19,293	–2,660	–12.1
Colquitt	34,048	33,277	32,139	31,148	–2,900	–8.5
Columbia	13,423	18,317	23,083	29,218	15,795	117.7
Cook	11,822	12,114	11,978	11,753	–69	–.6
Coweta	28,893	30,746	31,944	33,333	4,440	15.4
Crawford	5,816	5,837	5,753	5,619	–197	–3.4
Crisp	17,768	17,836	17,604	17,384	–384	–2.2
Dade	8,666	9,123	9,588	10,252	1,586	18.3
Dawson	3,590	3,630	3,590	3,545	–45	–1.3
Decatur	25,203	25,299	25,315	25,618	415	1.6
De Kalb	256,782	332,877	414,663	509,279	252,497	98.3
Dodge	16,483	16,265	15,830	15,268	–1,216	–7.4

Table 23 (Continued)

County	Year				Change, 1960-1975	
	1960	1965	1970	1975	Numerical	Percent
Dooly	11,474	10,733	9,722	8,533	–2,941	–25.6
Dougherty	75,680	92,665	111,313	138,928	63,248	83.6
Douglas	16,741	21,485	26,281	32,094	15,353	91.7
Early	13,151	12,640	11,499	9,836	–3,315	–25.2
Echols	1,876	1,734	1,564	1,357	–519	–27.7
Effingham	10,144	12,181	14,140	16,381	6,237	61.5
Elbert	17,835	18,117	18,032	17,861	26	0.1
Emanuel	17,815	19,053	19,582	19,569	1,754	9.8
Evans	6,952	7,745	8,227	8,638	1,686	24.2
Fannin	13,620	13,368	12,588	11,720	–1,900	–14.0
Fayette	8,199	8,930	9,482	10,034	1,835	22.4
Floyd	69,130	72,673	75,296	78,939	9,809	14.2
Forsyth	12,170	14,408	16,305	18,382	6,212	51.6
Franklin	13,274	13,218	12,929	12,601	–673	–5.1
Fulton	556,326	622,018	652,888	683,178	126,852	22.8
Gilmer	8,922	9,320	9,411	9,314	392	4.4
Glascock	2,672	2,571	2,358	2,054	–618	–23.1
Glynn	41,954	50,657	58,568	69,060	27,106	64.6
Gordon	19,228	21,040	22,179	23,322	4,094	21.3
Grady	18,015	18,273	18,028	17,610	–405	–2.2
Greene	11,193	10,763	10,151	9,430	–1,763	15.8
Gwinnett	43,541	53,425	61,212	67,711	24,170	55.5
Habersham	18,116	19,385	20,124	20,937	2,821	15.6
Hall	49,739	55,571	60,505	66,997	17,258	34.7
Hancock	9,979	9,706	9,254	8,712	–1,267	–12.7
Haralson	14,543	15,150	15,473	15,792	1,249	8.6
Harris	11,167	11,535	11,664	11,695	528	4.7
Hart	15,229	16,943	18,288	19,620	4,391	28.8
Heard	5,333	5,177	4,835	4,300	–1,033	–19.4
Henry	17,619	21,624	25,140	29,019	11,400	+64.7
Houston	39,154	53,963	65,484	78,628	39,474	100.8
Irwin	9,211	8,762	7,948	6,885	–2,326	–25.2
Jackson	18,499	19,423	19,763	19,973	1,474	8.0
Jasper	6,135	5,734	5,222	4,636	–1,499	–24.4
Jeff Davis	8,914	9,203	9,152	8,969	55	0.6
Jefferson	17,468	17,953	17,799	17,217	–251	–1.4
Jenkins	9,148	9,022	8,647	8,134	–1,014	–11.1
Johnson	8,048	8,097	7,788	7,204	–844	–10.5
Jones	8,468	9,982	11,276	12,629	4,161	49.1
Lamar	10,240	10,084	9,779	9,571	–669	–6.5
Lanier	5,097	5,013	4,813	4,614	–483	–9.5
Laurens	32,313	33,981	34,577	34,799	2,486	7.7
Lee	6,204	6,313	6,276	6,109	–95	–1.5
Liberty	14,487	16,099	19,274	24,118	9,631	66.5
Lincoln	5,906	5,539	5,216	4,869	–1,037	–17.6

Table 23 (Continued)

County	Year				Change, 1960-1975	
	1960	1965	1970	1975	Numerical	Percent
Long	3,874	4,038	4,178	4,275	401	10.4
Lowndes	49,270	54,269	60,205	68,691	19,421	39.4
Lumpkin	7,241	7,749	8,214	8,730	1,489	20.6
McDuffie	12,627	13,755	14,614	15,613	2,986	23.6
McIntosh	6,364	6,850	7,122	7,429	1,065	16.7
Macon	13,170	12,845	12,550	12,012	−1,158	−8.8
Madison	11,246	12,315	12,823	13,117	1,871	16.6
Marion	5,477	5,280	4,928	4,464	−1,013	−18.5
Meriwether	19,756	19,490	18,917	18,237	−1,519	−7.7
Miller	6,908	6,576	5,933	5,062	−1,846	−26.7
Mitchell	19,652	19,562	18,816	17,610	−2,042	−10.4
Monroe	10,495	10,547	10,582	10,651	156	1.5
Montgomery	6,284	6,517	6,424	5,988	−296	−4.7
Morgan	10,280	10,769	10,774	10,457	177	1.7
Murray	10,447	12,497	13,979	15,257	4,810	46.0
Muscogee*	171,634	206,735	224,168	234,113	62,479	36.4
Newton	20,999	23,294	24,858	26,445	5,446	25.9
Oconee	6,304	6,729	6,906	6,926	622	9.9
Oglethorpe	7,926	7,600	7,102	6,437	−1,489	−18.8
Paulding	13,101	15,117	16,933	18,980	5,879	44.9
Peach	13,846	15,454	17,023	18,867	5,021	36.3
Pickens	8,903	9,386	9,620	9,789	886	10.0
Pierce	9,678	9,679	9,316	8,727	−951	−9.8
Pike	7,138	6,995	6,617	6,109	−1,029	−14.4
Polk	28,015	28,399	28,029	27,187	−828	−3.0
Pulaski	8,204	8,133	7,964	7,743	−461	−5.6
Putnam	7,798	8,164	8,312	8,424	626	8.0
Quitman	2,432	2,383	2,182	1,869	−563	−23.1
Rabun	7,456	7,673	7,717	7,779	323	4.3
Randolph	11,078	9,855	8,555	7,205	−3,873	−35.0
Richmond	135,601	154,830	172,027	179,241	43,640	32.2
Rockdale	10,572	13,708	16,758	20,280	9,708	91.8
Schley	3,256	3,154	2,968	2,699	−557	−17.1
Screven	14,919	13,869	12,680	11,276	−3,643	−24.4
Seminole	6,802	6,879	6,731	6,381	−421	−6.2
Spalding	35,404	39,532	42,909	46,891	11,487	32.4
Stephens	18,391	19,552	20,342	21,242	2,851	15.5
Stewart	7,371	6,885	6,280	5,511	−1,860	−25.2
Sumter	24,652	26,635	27,962	29,193	4,541	18.4
Talbot	7,127	7,525	7,788	7,913	786	11.0
Taliaferro	3,370	3,012	2,569	2,066	−1,304	−38.7
Tattnall	15,837	16,801	17,181	17,410	1,573	9.9
Taylor	8,311	8,087	7,767	7,329	−982	−11.8
Telfair	11,715	11,681	11,204	10,511	−1,204	−10.3
Terrell	12,742	12,178	11,315	10,399	−2,343	−18.4

Table 23 (Continued)

County	Year				Change, 1960-1975	
	1960	1965	1970	1975	Numerical	Percent
Thomas	34,319	36,538	37,633	38,557	4,238	12.3
Tift	23,487	25,301	26,358	27,279	3,792	16.1
Toombs	16,837	18,265	19,026	19,426	2,589	15.4
Towns	4,538	4,741	4,730	4,641	103	2.3
Treutlen	5,874	6,162	6,188	6,052	178	3.0
Troup	47,189	46,293	44,861	43,279	–3,910	–8.3
Turner	8,439	8,438	8,050	7,354	–1,085	–12.8
Twiggs	7,935	8,127	8,121	8,030	95	1.2
Union	6,510	6,568	6,322	5,956	–554	–8.5
Upson	23,800	24,121	23,953	23,604	–196	–0.8
Walker	45,264	49,179	52,345	56,613	11,349	25.1
Walton	20,481	22,625	24,168	25,691	5,210	25.4
Ware	34,219	36,164	37,628	39,586	5,367	15.7
Warren	7,360	6,905	6,326	5,657	–1,703	–23.1
Washington	18,903	18,683	18,044	17,195	–1,708	–9.0
Wayne	17,921	18,972	19,940	21,508	3,587	20.0
Webster	3,247	2,966	2,642	2,281	–966	–29.8
Wheeler	5,342	5,037	4,545	3,906	–1,436	–26.9
White	6,935	7,464	7,902	8,485	1,550	22.4
Whitfield	42,109	5,018	56,979	64,534	22,425	53.2
Wilcox	7,905	6,931	5,946	4,941	–2,964	–37.5
Wilkes	10,961	10,338	9,635	8,939	–2,022	–18.4
Wilkinson	9,250	9,901	10,274	10,489	1,239	13.4
Worth	16,682	15,293	13,780	12,223	–4,459	–26.7
Georgia	3,943,116	4,321,993	4,746,162	5,127,899	1,184,783	30.0

*The populations of Chattahoochee and Muscogee Counties are combined.

The Individual in Georgia

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THIS position paper was written for the Education Goals Commission as background information for the establishment of educational goals for Georgia through 1985. The paper proposes to offer an analysis of certain significant conditions under which the individual in Georgia currently lives, to extrapolate trends for predicting conditions in 1985 and to suggest understanding, knowledge and skills which the individual should possess in order to successfully cope with his environment.

The task was overwhelming in scope. One could begin anywhere and end anywhere. What appears merely represents some conditions and trends which seem to merit the attention of the Commission. The writer has taken prophetic license in an effort to envision future educational needs. Many observations are perhaps true of life within most communities across the nation. However, an effort has been made to highlight those conditions and trends which appear uniquely true of life in Georgia.

The focus of this paper is clearly upon *change*. Many factors combine to make rapid change the order of the day for the coming decades; cultural confrontation as a result of fantastic progress in communications and transportation, population and knowledge explosions and technological advances of geometric proportions. Life is becoming increasingly complex and intellectually demanding. The individual's capacity for adaptation will be sorely tested in the years ahead. He must be equipped to adequately cope with rapid change—change in the conditions under which he lives, change in relationship patterns among people, and change in attitudes toward authority and limitations of all kinds. The central theme of the paper is that *Georgians in the future even more than in the present* *must become adaptive learners with sufficient skills and adequate flexibility to cope with the demands and pressures of a rapidly changing environment.*

The plan of the paper is to treat change which is to occur in the years ahead under three major topics. These include change in the basic conditions under which Georgians will live, change in the patterns governing the relationships among people and change in the attitudes of people toward authority and other limitations. After each topic an attempt will be made to draw educational implications and, where possible, to offer recommendations for future educational practice. The writer does not feel the responsibility for indicating precisely how each recommendation should be implemented. It is enough to point up educational needs stemming from changes discussed within the paper.

◆

A PEOPLE on the Move. Georgians are literally on the move! The picture is much the same throughout the nation where one family in five moves each year. Much of the movement within Georgia is from the rural countryside to the urban centers and from the urban centers to the suburbs. Rural whites and blacks are moving into the cities in large numbers, and urban whites are moving from the cities to the suburbs to escape blacks and rural immigrants. Both of these population movements create their own kind of stress.

Rural Georgians are presently being forced off the farms and out of the small villages as opportunities for farm employment decrease year by year. They are forced to give up the provincial, low-keyed, cool aspects of rural living for the hustling, up-tight, hot aspects of urban living. Lacking adequate coping skills, their expectations are frequently shattered, and they experience a form of cultural shock. The steaming pavement and beeping horns of the expressways are poor substitutes for the green tranquility of the countryside. They are largely unprepared for the yeasty social changes which are occurring within the cities. Many of these rural whites are appalled at the prospect of having black neighbors, of hippies flaunting social propriety, and of expressway driving.

The composition of neighborhoods within the cities is rapidly changing. The pattern is all too familiar. An all white community witnesses the advent of the first black family. Rumors fly, fears of a black flood are fed by unscrupulous real estate brokers, and the inevitable migration to the high ground of the suburbs begins. Frequently all white neighborhoods become all black within five years or less. Here and there this unceasing cycle is challenged by forward looking community organizations, but for the most part the exodus is incessant. The 1968 federal housing law offers a ray of hope for the future. Progressive realtors may sell to blacks and still maintain white patronage by using the federal government as a whipping boy. However, any rapid retardation of this flight of fear is not in the offing. White Georgians, like whites in the other 49 states, are likely to continue to react to blacks in their neighborhoods as though they had the bubonic plague. If the arrival of blacks in previously all white neighborhoods is a disappointment of catastrophic proportions to whites, the situation frequently becomes less than idyllic for blacks. As whites move out they take their money with them and in due time leave the central city with an intolerable financial burden. Middle class whites have an "out"—they can always move to the suburbs. Middle class blacks, however, are imprisoned. Sooner rather than later they will be joined in their move out of the ghetto by lower class blacks and whites.

Georgians pay a psychological price for their mobility. Many experience a sense of rootlessness and loneliness amidst ant hills of people. The needs for intimacy and belongingness are frequently thwarted rather than satiated by congested living. Familiar landmarks and familiar faces which offered psychological security have been left behind for strange and somewhat alien surroundings. A massive energy expenditure accompanies the constant readjustments occasioned by this mobility.

Three's a Crowd. By 1985 the vast majority of Georgians will be living in cities. Approximately one-third of all Georgians presently live in Atlanta. Within the foreseeable future one may expect to see one super megalopolis covering an area roughly extending from a point some six hundred miles north of Boston to Atlanta. To many of us now, such a fate looks worse than death. Perhaps we can yet break out of our provincialism and begin regional planning to insure green belts around metropolitan areas limited in size and surrounded by satellite cities of yet smaller sizes. Such human engineering is well along in England and the Scandinavian countries but barely recognizable here. Along with Reston, Virginia, Columbia, Maryland, Lake Meadows in Chicago, and Fresh Meadows in New York City, Georgia has one of the nation's few planned communities in Peachtree City south of Atlanta in Fayette County. Since our government has little provision for regional planning, the development of planned communities will not likely be on any significant scale until the populace demands it. At the moment the cities are becoming more and more crowded, the strain on public facilities and services greater and greater, and the populace remains apathetic.

The entire nation is beginning to reel from the population explosion. The annual rate of increase in the United States (a combination of birth rate, death rate, and immigration) is larger than the annual rate of increase in India, Japan, or Italy (Wrenn, 1962, 17). The lower death rate is contributing greatly to the population increase, while the birth rate is the lowest ever. The population increase is primarily among the economically unproductive—the very young and very old. By 1980 the number of persons in the United States reaching age 65 is expected to be 50 percent greater than in 1950, and well over 50 percent of the population will be 25 or younger. Demographic statistics in Georgia appear comparable. The state currently has over 100,000 five-year-olds alone (Nix, 1968). Providing for the educational needs of this swelling tide of young people presents a real challenge to a state which has been conservative in public spending. The pace of school building and the amount of financing required must be stepped up markedly.

On the positive side of the ledger one might speculate that younger Georgians with less of an overlay of prejudice might earn a much better score in race relations and other social problems than has our generation. There is some evidence that these young people are less enamoured with a consumer society than we. They are quick to remind us that we are hung up with materialism since we were products of the depression years. On the other hand, they have been sated and are consequently freed to pursue higher personal and social needs.*

High density population tends to create social pathology. Thomas Malthus felt that vice and misery would impose the ultimate natural limit on growth of populations. Most studies of the effects of population compression have focused upon the misery factor (predation, disease, and failing food supplies) as a deterrent to increasing populations. Calhoun (1962) offers an analysis of the ill effects of high density populations among rats which comes closer to the vice factor. In his simulated inner-city environment (rats forced to live in a life space one-half the normal size) misery elements were experimentally eliminated by providing an abundance of food and minimizing predation and disease. It was social pathology which limited the reproduction of the colony and created abnormalities in the manner in which they behaved toward one another. While it is always dangerous to leap from rat studies to an analysis of a human situation, there appear to be clearly recognizable similarities between conditions within Calhoun's rat colony and those within the crowded ghettos of the inner city.

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*Maslow (1962) has written about deficit vs. growth needs and has suggested that early deprivation creates deficit needs which tend to persist throughout a lifetime. A study (Hunt, 1941) with rats suggested that early food deprivation was followed in later life by a pronounced greed for food. The implication is that needs early sated do not tend to become as determinative later in life.

Stress from the unusually heavy social interaction necessitated by the doubled population resulted in a number of social pathologies. The mortality rate among newly born rats went up as high as 80 to 90 percent. Contributing largely to this fantastic mortality rate was the inability of females to carry pregnancy to full term or to survive delivery of their litters if they did. The female's instinct for nest building and for protecting her youth faltered. Certain males became cannibals in spite of the plentiful supply of food. Evident, too, was the triumph of might. After a series of fights among males, a clearly established hierarchy was recognized. The limited space of the colony was inequitably distributed as dominant males established territorial rights within which they ruled sizable harems. Certain males deprived of sex privileges among females consigned to harems would relentlessly attack in packs unchaperoned estrous females beyond the satrapies of the dominant males. Other males became subservient, gave up attempts to engage in sexual activities with females but made frequent and favorably received sexual advances toward dominant males.

Of special significance was what Calhoun termed the "behavioral sink." The stress from the heavy demand of these aberrant social interactions led to a pathological togetherness. Individual rats would rarely eat except in the company of other rats. Eating and other biological activities were thus transformed into social activities in which the chief satisfaction was interaction with other rats. This resulted in a further restriction of their life space. They were literally piled one upon another with resultant unsanitary and unpleasant conditions prevailing. The term "behavioral sink" is picturesque of the unwholesome conditions obtaining in the experiment. One can conjecture that this pathological togetherness was a function of the anxiety resulting from these deviant and harrowing adjustments.* There are more similarities between Calhoun's study and ghetto life than we care to recognize. Social disorganization accompanied by high mortality rates, lessening maternal concerns, sexual promiscuity, and other forms of deviancy, territorial rights of gangs, crime, and other social pathologies are clearly in evidence. We already have in our cities many "behavioral sinks," and the increasingly crowded nature of our cities in the future will likely result in many more.

Living with the Machines. Man's technological accomplishments pose a potential threat to his personhood. Already man is selected, directed, and monitored by the machines he has created. Self-correcting servo-mechanisms, information retrieval systems, and cybernetic devices of all kinds have added greatly to technological efficiency and production. However, these same automated devices have contributed on the part of some to a sense of impersonalization, to a loss of self-importance. McLeish (1968) has warned that man is fast becoming a slave to his technological efficiency, that man has come to believe that whatever can be done must be done in spite of the exacting demands which such feats require of him.

Technological advances have had, and will continue to have, their effects in the world of work. While it is debatable whether or not automation will result in fewer jobs, it is certain that automation is having its effect upon existing jobs. There is an unrelenting tendency for unskilled factory and farm jobs to become less and less available and for the educational requirements of all occupations to rise. The trend is inexorable! Machines in the decades ahead will continue to relieve man of the drudgery of backbreaking tasks, to remove unskilled occupations from the job market, to raise the educational requirements of all occupations, and to require continual job retraining on the part of a large part of the labor force. The level of educational attainment will clearly be the single most important factor for labor force entrants in the coming decades. Georgia has serious cause for worry since it leads the nation in school dropouts (Miller, 1963). A smaller proportion of Georgia youth finishes high school than in any other state in the Union. This suggests that large numbers of Georgia youth will be poorly equipped to compete for employment opportunities with the rest of the nation's youth.

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*Experimental studies have demonstrated that stress increases affiliative needs. Togetherness thus becomes a means of assuaging anxiety.

Adding Life to One's Years. The awesome accomplishments of modern medical science have added years to our lives. Population statistics continue to rise even though the U. S. birth rate is the lowest ever. This is a result of the increasing longevity of life. If medicine is concerned with adding years to our lives, education should be concerned with adding life to our years. If trends continue, an increasing number of retirees will have an increasing number of idle years to occupy. Furthermore, the work week for those employed likely will continue to shrink. These factors will combine to produce a great deal of leisure time for Americans.

Educational Implications

Our analysis concludes that in the future Georgians will continue to be a people on the move, that much of their movement will be toward increasingly compacted life spaces in spite of their threatening social pathologies, that life will be characterized by a dialogue with cybernetic machines and that they will have considerably more leisure time as a result of increasing longevity and a shorter work week. This picture suggests a number of guidelines for education in the future.

The one implication most evident from the above picture is that Georgians must be equipped to cope with constant changes in their environment. They must be able to view change as a challenge rather than a tragedy. This can best be accomplished by emphasizing the processes of education rather than the content. The individual must have available to him a set of processes or procedures for the orderly and satisfactory handling of new adjustments. This means he must be taught how to learn, how to think and how to make decisions. This emphasis upon processes rather than upon content would tend to make the student more responsible for his education. It would be telling the student, "Change is occurring so rapidly that life in your day will be considerably different than life in our day; consequently, the best we can do is to teach you how to make intelligent decisions about those issues and dilemmas with which you will be faced in the future."

Unfortunately today's teachers have been taught to respond to the correctness of the product rather than to the correctness of the process. Future teachers must be taught to nourish the thinking process, to be more concerned with the logic of the process employed than the correctness of the conclusion reached. Students must be taught (1) how to identify alternatives and where to obtain information regarding them; (2) how to predict the probability of one's success in each alternative; (3) how to estimate the degree to which each alternative will accord with one's own values, interests, and abilities; and (4) how to construct a plan of action. Specific answers to specific problems are time-dated; the above processes, however, will serve the student well throughout a lifetime.

In the future, computer-based information retrieval systems will serve as a powerful ally to the student's storehouse of factual knowledge and as a prosthetic device greatly extending his capacity for intelligent behavior. Already such systems are operating as adjuncts to the student's career decision-making (Tiedman et al., 1968; Cogswell & Estevan, 1965; Impelliteri, 1968; Minor, 1968). The computer carries on a dialogue with the student regarding important steps in the decision-making process; processes information regarding the student's values, interests, and aptitudes; and offers pertinent data regarding job opportunities, satisfactions, and requirements. The ability of these systems to store, process, and retrieve thousands of bits of information and to make them immediately available to inquiring students promises to significantly revise the role of the guidance worker in dispensing information. Computer-assisted instruction will likely prove immensely helpful to teachers in selecting the appropriate instructional units and materials based upon input information regarding the academic readiness of a given student and to students both in communicating information and in teaching basic skills. Students must be prepared for the individualized learning made possible through computers and other carefully designed instructional devices.

One promising way of teaching the processes of learning, thinking, and decision-making to students is to utilize them as tutors of younger students while under the supervision of the teacher. There is ample evidence to suggest that students can be profitably utilized as tutors to other students (Cutler, 1964; Perkins, 1966; Cloward, 1967). Some of the advantages of using students as tutors are (1) students are able to establish a supportive relationship with other students more rapidly than with teachers; (2) students feel no threat from an authority figure when learning from a fellow student; and (3) students that teach also learn from their teaching efforts.* We have known for a long time that the best way to learn is to teach. If teachers were to monitor the instruction of student tutors with special attention given to the logic employed, this approach could prove especially rewarding in teaching the processes of education.

The increasing use of machines for directing human life and the cultural premium on technological efficiency suggests that schools will need to humanize their work with children in order to combat the tendency toward impersonalization stemming from these factors. Teachers must come to terms with the essential humanity of students, with their feelings, needs, and aspirations. The training of teachers should attempt to reawaken within teachers those aspects of feeling life which have been carefully conditioned into unawareness. This training should prompt the teacher to be increasingly sensitive to the emotional climate of the classroom and to emotional signals being emitted by individual students. Teachers should acknowledge these signals and deal with such psychological data in an effort to demonstrate respect for the personal dignity of each pupil.

The school should humanize the curriculum by teaching for relevancy, i.e., teaching knowledge and skills which the student will recognize as being relevant to his interest and needs. The curriculum should speak to such culturally determined discontinuities as beginning school, separation from the family, beginning work, marriage, retirement, and even death. It should also concern itself with sensitive topics such as sex, drugs, racial relations, violence, pollution, and war. These are the elements of life, and if the school is to prepare youth for life, it must examine such issues.

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*While the research suggests that both tutored and tutors profit from this arrangement, the tutors tend to profit more than the tutored. This is consistent with Riesman's "helper therapy principle," by which is meant the tendency for the dispensers of services to benefit more than the receivers of services (1965): witness the growth of lay leaders in Alcoholics Anonymous; Recovery, Inc.; Synanon; and other lay therapy groups.

Another way of making the curriculum relevant is to more fully utilize community resources. Secretary of Health, Education and Welfare Robert Finch has recently stressed the importance of providing inner-city youth with life-like experiences within the community. The "Parkway Project" in Philadelphia is a school without walls (Thombley, 1969). It depends exclusively upon the offices, stores, laboratories, museums, factories, and jet airports of the modern city to provide the nuts and bolts of its educational program. While the wisdom of such exclusive utilization of community resources may be questioned, it is clear that the community can serve as an effective means of rendering school experiences more relevant to life. Business and industry must join the school in its educational effort more fully than at the present. All youth could profit from exploratory work experience in various occupational areas and fields. Some youth will wish to work extensively while finishing their education. If the wedding between the schools and business and industry is complete, flexible scheduling both within the schools and within the work stations will occur. It should be possible for high school youth to attend school either in the morning or the afternoon in order to maximize the possibility of part-time employment. Furthermore, business and industry should allow two students to fill one full-time work station.

Humanizing instruction means individualizing instruction. Teaching directed to the average student should give way to teaching directed to each student. Individualized teaching calls for a careful examination of both the student and the subject to be taught. The student's stage of readiness, the building blocks (intellectual operations) which he has available to him for learning the subject, should be diagnosed. Similarly the structure of the discipline (Bruner, 1960), the basic principles necessary to comprehend the discipline, must be discovered, and teaching-learning units (Flanagan, 1967) useful in understanding these principles should be constructed. The proper teaching-learning units should be matched with the student's stage of readiness and preferred learning mode to accomplish a good fit. As we hinted earlier, the teacher by 1985 is likely to be greatly assisted by the computer in diagnosing the stage of readiness and in prescribing the proper teaching-learning units. Such matching should virtually assure the student of a series of successful school experiences. Part of the student's instruction should be in groups to insure social learning. Group learning should offer a laboratory in which human relationship skills are stressed and serve as a medium for further academic learning.

As has been pointed out earlier, Georgians as well as other Americans are on the move. The likelihood of one spending one's life in the community of his birth is becoming increasingly remote. For this reason the school's curriculum must not be provincial in tone. Georgians must be made aware of the broader world around them. Georgia as a part of the Southeast has tended to take a more ingrown, provincial outlook toward life than many other quadrants of the country. Increasingly, Americans will be moving in and out of states. Georgians must be educated for the broader culture to prepare them to cope with life in other parts of the country. This suggestion is especially pertinent to the education of rural Georgians. Large numbers of today's rural youth will be faced tomorrow with finding employment in the big cities. It is difficult to believe that their education is preparing them to cope with the demands of the high density living of urban areas.

The congested living patterns of the future have many implications for education. The individual must develop a clear sense of self-identity* to enable him to resist mass pressures for unnecessary conformity, a set of social skills to enable him to negotiate with others for the satisfaction of personal needs and a sense of social responsibility to prompt him to become a part of the solution rather than the problem. Students must be taught the advantages of participant democracy in combating social disorganization leading to the creation of "behavioral sinks." On the other hand, students should be taught to jealously guard their individual rights against mass pressure for conformity. Perhaps the concept of responsible independence is the goal for which education should strive.

The curriculum should help develop many self-fulfilling ways of using leisure time. Recreation, avocations, and opportunities for volunteer social service should be taught. One of the biggest problems of retirees or other unemployed persons is to find meaning in their existences. The increasing length of life will swell the ranks of the retired, making this one of the most pervasive problems for the future. The school should not shy away from this life adjustment. Youth should be made aware of such problems, and the unemployed and retired should be able to look to the school for assistance in discovering meaningful activities for their leisure time.

And, finally, the future mobility of the population and the crowded conditions within which Georgians will live may create special problems in meeting personal needs for intimacy and belonging. Consequently, schools must stress communication and relationship skills to enable Georgians to meet these psychological needs while in transit. For modern living such skills are as necessary as job skills or study skills.

Changing Relationships Among People

Racial Confrontation. Already a significant factor on the American scene for many years, racial confrontation will likely continue to dominate national attention for some time. Georgia has been the stage for much of this drama. Atlanta is the national headquarters of the Ku Klux Klan and the headquarters of the Southern Christian Leadership Conference and other civil rights organizations; it was the home base for Martin Luther King, Jr., the site of many of the sit-ins and freedom rides and is well known for its leadership efforts in racial relationships. The contest continues with blacks struggling to build esprit de corps and a positive self image and with whites, somewhat bewildered by it all, moving over (or perhaps more accurately, moving out) to make room. Well-meaning attempts by the races to communicate emotionally are near misses like ships at sea passing in the dark. Whites fail to understand and indeed are threatened by the blacks' attempts to build a positive self image by slogans such as "Black is beautiful," and blacks lose patience with whites who experience difficulty in shaking loose from emotional conditioning stemming from centuries of cultural training.

The confrontation is likely to be stepped-up on the political front. The movement of whites out of the urban centers and into the suburbs will result in political shifts. Black Georgians, comprising some 26 percent* of the state's population, have enjoyed very little political representation in the past. In the future, however, blacks will control the inner cities, and "white power" will be limited to the surrounding satellite cities and suburbs. Blacks will inherit, along with their newly won political power, faltering economies, and "behavioral sink." Whites have taken their wealth with them leaving the cities with an intolerable financial burden. The cities could conceivably expand into the suburban areas and thereby increase their tax basis. However, suburban whites oppose this move since it would remove their tax dodge and the psychological distance between themselves and blacks. Blacks oppose it since it would delay their assumption of political power. Hence, the trend will undoubtedly continue, and politicians within the central cities will soon change from white to black.

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*Zigler (1969) found that 20 percent of four and five year old Negro children enrolled in Head Start programs did not know their own names, although they knew the names of friends. This study suggests the need for special assistance to be given to such children in establishing self-identity.

*This information is to be found in a recent handout (April 25, 1969) from the Biostatistics Service of the Georgia Department of Public Health. However, such information is extremely difficult to calculate since federal laws have discouraged the practice of asking for race on standard forms.

The Feminine Protest. Women have joined minority groups in demanding civil rights. Women were specifically mentioned in the Equal Opportunity Employment Act as legitimate plaintiffs along with minority groups. The chief source of discrimination against women in America is in employment. Women are very much in the world of work today. They comprise over one-third of the work force, and their number is growing. However, there are certain occupations which have been denied them on the basis of sex. In the United States only one percent of working college graduate engineers and only 11 percent of the scientists are women. By contrast, 50 percent of the professionals and 20 percent of engineers in the Soviet Union are women (Wrenn, 1962, 25). The new career pattern for women calls for them to finish school, begin work, become married, have children, leave the work force, rear their families, return to work after their last child is in school and remain at their jobs until retirement. Women are striking out against their protected position within society and are demanding a more equal position with males. This conflict is destined to become more lively in the future and the relationship between male and female somewhat strained as a result.

The Kaleidoscopic Family Structure. Significant changes within the family structure are under way. Family size is shrinking, relationships between husbands and wives and parents and children are changing, and marriage as a social institution is being reevaluated. The economically integrated self-sufficient patriarchial home is on its way out. In its place is emerging a new family structure characterized by its child-centeredness, equality in husband-wife relationships and non-authoritarianism. In many ways the emerging structure better reflects the aims of a democratic society than the more traditional structure. The sanctity of the traditional marriage formula—sexual continence before marriage, periods of engagement, and lasting marriage unions—is being reevaluated. A sizable number of college youth are openly experimenting with informal cohabitation, and anthropologists such as Margaret Mead have suggested marriage by levels.

Mothers are returning to the work force in increasing numbers. The amount of parent-child contact is likely to decrease as the trend for mothers to return to work increases. It is quite possible that the traditional role of the home in furnishing psychological support will be met less well in the future.

Educational Implications

The above mentioned revolutions in the manner in which people relate to one another are clearly not happening in a corner, and the school must cease being timid in discussion of these topics. The rational setting provided by an institution dedicated to scientific inquiry should prove ideal for investigating these topics. The casual and often inaccurate discussion of such topics in the streets is a poor substitute for the more deliberate, objective study of the classroom. Students who now find the school bland and unpalatable would soon find it stimulating and relevant if their curriculum included relationships among races, sexes, and family members as well as values, economic systems, psychology, drugs, and war!

The powerful impact of the schools must be used to help Georgians of all races to better understand each other. One gets the impression that teachers within the classroom are unduly timid about candid discussion of this problem. The contest between the races continues, but Georgia schools for the most part seem to have declared this issue off limits to direct frontal attack within the classroom. Students need to develop an appreciation for individual and racial differences within a pluralistic society.

The education of black students will need special attention in the future. The education of blacks has been inferior to that given to whites; yet, in the years ahead, the most challenging political responsibilities will rest with black politicians and community leaders within Georgia's central cities. The greater problems of these areas will require the most innovative and daring of political strategies. The educational implications of this fact are obvious. Black students especially need to be sensitized early to the problems of the inner-city, to be motivated to contribute to the solutions and to be superbly prepared for leadership roles. The shamefully low percentage of black Georgians obtaining a college education must be significantly raised. Every effort must be made to induce the very best teachers to fill classrooms in predominantly black schools and in every reasonable manner black and white students should be encouraged to attend school together.*

The emerging role of the woman in the world of work demands that schools take girls more seriously. The school should inform them of the new career pattern of women and encourage them to prepare themselves accordingly. In the past it was considered unnecessary for girls to devote a significant amount of time to vocational preparation since it was assumed that their work experience would be brief due to their role within the family. Girls should be advised to consider career opportunities previously closed to them and to consider the likelihood of their spending many years in employment even though they may marry and rear families.

Minority students as well as girls should be encouraged to raise their educational-vocational aspiration levels. In the past, blacks in Georgia and throughout the United States have been limited mostly to unskilled, semi-skilled, and service occupations (Johnson, 1967). They have learned this fact all too well and their occupational aspirations reflect these limitations. In many cases their aspirations lag seriously behind the growing occupational opportunities available to them. Schools must double their efforts to inform blacks of these opening doors and to encourage them to aspire, where appropriate, to occupations previously closed to them. Educational materials used must reflect the improved occupational lot of the black both in print and in picture. In every possible way the black student should be exposed to social models who demonstrate the new position of the black in American society.

The changing patterns that govern relationships among races, sexes, and family members suggest the crucial importance of human relationship skills for the future. Since confrontation is likely to characterize our existence for years to come, the individual will need special skill in coping with conflict. Furthermore, he will need to develop a tolerance for ambiguity in order to help him to survive the lack of crispness of the many issues with which he must contend. Destined to live in crowded, regimented urban areas, the individual's skill in establishing satisfying human relationships will perhaps, more than any other single factor, determine the degree of his self-fulfillment.

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*The second largest social science research project in this country, the Coleman Report (1967), concluded that the achievement of minority students improves without adversely affecting the achievement of majority students if schools are 50 percent white or more and 50 percent middle class or more. However, both white and minority students suffer in achievement when the percentage of whites falls below the 50 percent mark.

Changing Attitudes Toward Authority and Other Limitations

Striking Out Against External Limitations. Much of what is happening throughout Georgia and the nation is indicative of the new *zeitgeist* which openly challenges the old order. The youth of today is increasingly less willing to accept authority which rests entirely upon perquisites such as badges, degrees, titles, or skin color. Authority which does not rest on clearly recognizable merit or expertise will be soundly questioned. It is not enough to be white; to be the teacher, professor, or president; or to be male. Youth is demanding that leadership be a function of excellence rather than privileged position. The conservative nature of Georgia political and family life has, perhaps, accounted for the fact that this behavior is less prevalent in our schools than in schools in many parts of the country. However, we can expect to witness more of it in the future.

Such challenges are accompanied by heated confrontation. The confrontation is noisy, awkward, and at times ugly. Americans are learning the usefulness of applying pressure tactics to the System. They have been surprised to learn that they can dent the System by their noise and have become drunken sometimes upon their newly discovered power. While the various causes being championed by such groups comprise something of a crazy quilt, the writer's analysis suggests that the more reasonable elements among them seem to be in quest of a fairer system characterized by egalitarianism.

We are experiencing massive cultural confrontation. Global transportation and communication systems have greatly shrunken our planet. The Apollo astronauts clearly described the picture when they said that they had seen the earth the size of a quarter and that it was truly one world. We lament the fact that we are rapidly becoming a neighborhood but not a brotherhood. We are being forced together but without the appreciations and social skills to relate in a meaningful and civilized manner. Moreover the world's shrinking has caused us to question the absolute nature of many of our values since we have witnessed other cultures which appear to experience their own brand of success with a different approach to moral and ethical problems.

As spin-off from this cultural confrontation, some youth experience a sense of self-diffusion as a result of the lack of a value base. The visible competition of differing value systems has forced the individual to reexamine the basis of his values, and such questioning is fraught with anxiety. Youth are unselfconsciously experimenting with use of hallucigenic, depressant and stimulant drugs; with pre-marital sexual relationships; and with communal living. Much of this behavior appears to be a thrashing about indicative of their dissatisfaction with rationales given for the old morality. While such behavior is still avant-garde, and perhaps less widespread in Georgia than in many parts of the country, it may be read as a symptom of a generalized reassessment of the rules which results quite naturally from extensive cultural confrontation.

Striking Out Against Internal Limitations. As a further reflection of this egalitarian *zeitgeist*, assumptions regarding hereditary limitations are being seriously questioned. The concepts of fixed intelligence and predetermined development are particularly vulnerable (Frost & Rowland, 1969). No one doubts that differences in achievement exist. Eisenberg (1964) found a five-year difference between the reading levels of inner-city and suburban youth. Coleman (1967) found that minority group students enter school behind, stay behind, and fall further behind before leaving school. What is being questioned, however, is the assumption that such differences reflect genetically determined intellectual abilities. The IQ is in serious trouble in certain parts of the country. New York City schools have banned the use of group intelligence tests entirely, and the Los Angeles schools have banned them in the primary grades.

Boyer and Walsh (1968) argue that there is no compelling evidence that children are born intellectually unequal and assume instead that all children, with the exception of the exogenous varieties of the mentally retarded, are born with all the intellectual capacity necessary to learn what is required of them. Bloom (1969) also challenges the assumption that students fail for want of ability. He surmises that over 90 percent of them can learn what we have to teach them, and that it is the responsibility of the educational institution to devise methods which will enable students to master the subjects to be taught. John Carroll (1963) defines ability not in terms of capacity but in terms of the amount of time required to learn. Therefore, if the student fails to learn it may merely mean that the teacher didn't extend sufficient time and patience to the student. Bruner (1960) blames curriculum construction for the difficulty of many students to successfully master subject matter rather than the student's inability to learn. He contends that any student can learn any subject if the structure of the discipline undergirding the subject is discovered and educational experiences calculated to teach the discipline are properly sequenced. By inference one can conclude that the student's failure to learn is a consequence of the teacher's failure to identify and sequentially present the basic principles underlying a discipline.

Many learning theorists believe that ability to learn in later life is powerfully affected by the presence or absence of an early stimulating environment (Hunt, 1961). Laboratory scientists like Krech and Rosenzweig (1966) have demonstrated that after enriched experience by means of planned intervention there is a high probability of an increase in the cortical mass of rats. Such studies gave impetus to the development of Head Start and other early childhood education programs. Evaluation of such efforts has disclosed that their salutary effects upon the child's performance in first grade are ephemeral without further reinforcement. Consequently, the Follow Through programs were inaugurated to supplement the efforts of Head Start. While all the facts are not yet in, such programs are highly promising and will likely persist in greater number.

Along with the concept of fixed intelligence, the concept of predetermined development is being seriously questioned. The concept of predetermined development with its heavy emphasis upon maturation suggested that the school was largely incapable of intervening in the development of the child's intelligent behavior by instruction; the school must wait for the unfolding of the child's abilities and interests. This view, which emphasized the importance of time, is currently giving way to a view which holds that time is merely the backdrop against which development occurs. The really crucial factor is the invariant sequence of stages through which students move as a result of necessary experiencing (Piaget, 1964). Consequently, development of intelligent behavior can be hastened by the intervention of the school in providing properly sequenced experiences necessary for advancement to the next stage of conceptual development (Ferguson, 1956; Hunt, 1965).

This recent thinking regarding the crucial role of experiencing in the development of intelligent behavior renders the school more responsible for the intellectual development of students. While educators cling to assumptions regarding fixed intelligence and predetermined development, they can be much more comfortable with their failures; they can always attribute the student's failure to learn to inadequate intellectual endowment. Many developmental psychologists currently assume, however, that the student's lack of readiness to profit from instruction is remedial, that he can become "ready" by a set of properly sequenced experiences, and that it is the educator's responsibility to identify and present those experiences necessary to prepare him adequately.

The discovery of the importance of self and teacher expectations upon student performance has led to further questioning of the heavy importance assigned to genetic limitations to learning. The Coleman Report (1967) pointed up the strong relationship between the student's' low self expectations and inadequate academic achievement. More specifically, it is the student's feeling of inability to control his own destiny, to make a difference in his environment, that is so strongly related to academic failure. The Report suggested that minority students, except for Orientals, have far less confidence than whites in their ability to affect their environments and futures. Hendrick (1943), White (1958), Hartman (1958), and Berlyne (1965) have written of the importance of mastery over the environment as a basic motivator of human beings. Walsh (1956) reported a coefficient of correlation within the 30s between positive self concepts and school achievement.

The teacher's expectations for students have also been found to be positively related to academic achievement among students. In the same manner that the expectations of bank depositors participated in the failure of scores of banks in the early '30s, the expectations which teachers have for their students seem to help bring about the very performances predicted. The study by Rosenthal and Jacobson (1968) is especially pertinent to this point. They led certain teachers to expect greatly improved performances on the part of students speciously labeled "late bloomers" on the basis of contrived test scores. In actuality, these children had been selected randomly from the school population, and fictitious test scores for them were reported to their teachers. At the end of eight months both control and experimental groups were retested, and the results were astounding. In brief, the results suggested that: (1) while both groups showed mean gains over pre-testing, the experimentals enjoyed gains significantly greater than those enjoyed by the controls; (2) first and second grade students registered much greater gains than did students in the third through sixth grades; (3) students in the medium track profited more from the heightened expectations of teachers than did students in the slow or fast tracks; and (4) the experimentals achieved significantly higher reading grades and achievement test scores. While the results and design for the experiment are being questioned and replication studies are under way, this study has caused us to seriously consider the effects of teacher expectations upon student performance.

The implications of such studies are staggering. If teacher expectations significantly influence student achievement, then it is altogether possible that a social bias regarding the inferiority of certain classes and races might, if widely held by teachers, literally condemn these classes and races to a permanent position of academic inferiority. Wilson (1963) presented compelling evidence that teachers hold up lower standards of achievement for students from deprived homes. Clark (1963) and Riessman (1962) have suggested that homogeneous ability groups have proven to be one of the most effective techniques for maintaining class differences.

A study of placement practices in one midwestern city indicated that where lower class children were misplaced according to their aptitude scores, they were placed in ability groups lower than their aptitude scores would have suggested, and where middle and upper class children were misplaced, they were placed in ability groups higher than their aptitude scores would have suggested (Brookover, 1969). The effects of teacher expectations on the group placement of lower class students seem especially pernicious if, as has been suggested, both bright and slow students do better in high ability classes. French (1959) concluded from his research that fast or slow students placed in high ability classes appeared in some subjects to have a definite advantage over students in lower ability classes. This phenomenon might be explained on the basis of the higher expectations which teachers of high ability classes have for their students. On the other hand, one could surmise that children teach each other, and that students placed with high ability students have better peer teachers than students placed with lower ability students. In any event, lower class children are placed inappropriately in lower ability groups more often than middle and upper class children, and such placement appears to have a less desirable influence upon their academic achievement than does placement in high ability groups. Such reasoning led Judge Wright of the Fifth District Court in Washington, D.C., to declare tracking in the schools to be unconstitutional (Research Notes, 1969).

In order to combat the negative effects of self-fulfilling prophecies on minority group students, Clark (1963) has recommended that the first eight years of schooling for all American children should be the same, that teachers "get rid of . . . guilt-determined sentimentalism and solicitousness" regarding minority and lower-class children and expect all children to perform acceptably. Boyer and Walsh (1968) urge us, in the absence of definitive scientific evidence about human potentialities, to base our expectations of student achievement upon the most generous and promising assumptions about human potential, realizing that such assumptions tend to be self-fulfilling.

Educational Implications

There can be little doubt that a positive self image is a most significant factor in the equation for success in life. Its relationship to academic achievement has been repeatedly indicated in research studies. Unfortunately the schools have contributed to the poor self images of many students by subjecting them to almost certain failure. This failure is a function of (1) the extremely competitive atmosphere of the classroom where each student is constantly pitted against every other student and (2) of the school's persistence in teaching to the "average" student. Glasser (1969) recognized the school's complicity in contributing to the poor self images of students and recommended basic changes in his book, *Schools Without Failure*.

The school must abandon normative teaching, teaching to the average student. Grades and grade levels must be replaced ultimately with a program of continuous evaluation of the intellectual development of each student. Individually prescribed instruction (Glaser, 1966) based upon this continuous evaluation could virtually insure success for all students. As mentioned earlier the school's efforts to individualize instruction will be greatly assisted by computers programmed to store complete lists of instructional materials in the form of modules which may be called "teaching-learning units" (Flanagan, 1967). Such units will be systematically indexed in terms of what is expected to be learned from them, what the prerequisites are, and for what type of student and situation this unit is most appropriate. The computer will assist in the selection of "teaching-learning units" based upon input data regarding the teacher's diagnosis of the pupil's current stage of academic readiness in any given subject. In this manner the student is provided with a series of academic successes for the development of a positive self image.

The student must come to feel that he is capable of impacting his environment, of making a difference. There is nothing that breeds this kind of confidence like success. In this sense all students are entitled to continuous success experiences within the schools.

Schools of the future must involve students more in decisions which affect them. The student should be offered greater freedom and responsibility for making decisions about his education. In each subject area, if indeed such divisions continue to exist in the future, the student and the teacher together should establish certain long-range goals for the student along with mention of sub-goals necessary for the accomplishment of the broader ones. Such practice should result in a deeper commitment on the part of the student to his own education and in a stronger sense of self direction. While the schools cannot control the student's home life, they can control behavioral contingencies within the classroom and at the very least encourage situation specific behaviors and attitudes contributing to the student's sense of well-being. Since the school is in some ways more representative of society at large than is the family, one might reasonably assume that such attitudes and behaviors learned in the classroom would spread to situations outside the school.

Teachers must become aware of the significant impact which their expectations have upon the academic achievement of students. They would do well to heed the admonition of Johann von Goethe when he said, "If you treat an individual as he is, he will stay as he is, but if you treat him as if he were what he ought to be and could be, he will become what he ought to be and could be." Perhaps more than anything else we need teachers who believe strongly in the possibilities of their students, who can see the talent which lies hidden beneath an overlay of cultural expressions different than those of the teacher and who can relate to students in a manner which respects their essential humanity.

Concluding Remarks

An attempt has been made to don the mantle of a seer and to look into the future in order to gain perspective for the designing of education in Georgia. One phenomenon stands out most clearly —Georgians will be faced with significant changes in the years to come; changes in the conditions under which they live, changes in the patterns governing relationships among them, and changes in attitudes toward authority and other limitations. It is absolutely clear that we cannot appropriately design specific curricular content for the years ahead, but we can concentrate on preparing Georgians to be experts at adjusting to change. We can teach them how to learn, how to think, and how to make decisions. We can teach them to appreciate individual differences and to possess the ability to relate successfully to one another. And perhaps most important of all, we can equip them to be self-governing, responsibly independent human beings who can live at peace with themselves. With such equipment Georgians can face the future unblinkingly.

Dr. Kenneth B. Matheny received his Ph.D. from Michigan State University in Counseling and Guidance in 1963. Since that time he has served as chairman, arts and sciences and instructor of psychology, Lansing Community College, Michigan; director of Special Services for Exceptional Children, Ingham County Schools, Michigan; assistant professor, Michigan State University; other psychological and consultant positions; and is currently professor of counseling and educational psychology, Georgia State University. He is a member of a number of professional organizations including the American Educational Research Association, the American Psychological Association, the National and the Georgia Rehabilitation Associations, and the American Rehabilitation Counselors Association. Dr. Matheny has received several research grants including a Vocational Rehabilitation Administration grant to support a conference to promote dialogue and contractual agreements between the Division of Vocational Rehabilitation and Special Educators with Michigan for cooperating in the vocational placement of educable mentally retarded senior high students, and an Educational Professions Development Act planning and research grant entitled *Model People for Model Cities: Improvement of Ghetto Education in Three Urban Centers.*

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critique:
The Individual in Georgia

By Fred R. Crawford,
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PROFESSOR Matheny provides only fascinating glimpses of his concept of the individual in Georgia today and in 1985. Too much time is spent presenting in abstracted form some of the generally accepted conclusions and projections of the demographer, the family expert, and even the comparative (rat) psychologist. Too little information is offered which defines the "individual" and too little evidence is presented in support of the glimpses which he makes available. His orientation to his task is only in part objective. He completely ignores many of the potential intrusive forces currently being tested which will undoubtedly change our society by 1985, if adopted, such as the guaranteed income, the twelve-months school, the extension of free medical care to all, the elimination of hunger, the direct election of the President, etc.

What are the characteristics of the individual in Georgia today as inferred by Professor Matheny? One type of individual emerges, through the process of piecing together the glimpses appearing on many pages, rather clearly—the white male. Professor Matheny's view of this type of individual stresses these characteristics:

1 the white male is a racist;

2 he has less than adequate education;

3 he is patriarchial in family orientation, which is imputed to mean "not democratic," placing females in a subservient role, and not even taking the female seriously;

4 he exercises leadership primarily on the basis of "privileged position";

5 he is conservative;

6 he is too provincial in his outlook;

7 he is enamoured with a consumers' society and "hung up" on materialism;

8 he is too mobile and experiences "a sense of rootlessness and loneliness" as the price for mobility;

9 he develops "social pathologies" because he lives in areas of high population density;

10 he is now questioning the "absolute nature" of his values including his belief that intellectual abilities are hereditary;

11 he is "selected, directed, and monitored by the machines he has created";

12 he is "apathetic."

By inference using Professor Matheny's logic, in 1985, the while male in Georgia would have the *opposite* of these characteristics. But that is not all that Professor Matheny sees as the characteristics of the Individual in Georgia in 1985. By changing our educational philosophy, methods, and content, (including abandoning "normative teaching," the individual of the future would

1 tolerate ambiguity;

2 perform "situation specific behaviors" (following situational ethics?);

3 make an impact on his environment through the device of confrontation not just on racial matters;

4 have "success" (whatever that means) as his ultimate goal;

5 cast out traditional leaders.

Professor Matheny offers less descriptive patterns of the white female, who will be employed, and male and female Negroes in Georgia. Employment apparently is the key value around which the future Georgia is to be oriented. Under the Matheny philosophy, work is necessary and public schools would be "wedded" to industry so that a constant supply of workers is available and trained to perform economic tasks. He uses such terms as "participant democracy," "responsible independence," etc., but does not clarify these. In the transition of Georgia's individuals, as Professor Matheny sees this, the cities will become inhabited by majorities of Negro citizens, and the traditional authority of the family will be shifted to school authority.

What about the individual in Georgia in 1985? Obviously, there will be more of them, the proportion of Negroes will be greater, women will compose a larger proportion of the work force, schools will have the fundamental responsibility for inculcating values in children, and "life will be better."

There is an axiom in sociology which states

> All individuals are like all other individuals in some ways;
> Some individuals are like some other individuals in some ways;
> Each individual is unique in some ways.

In projecting the conditions and characteristics of the individual in Georgia now and in the future, one approach might have been oriented around this axiom. All individuals need to eat, to have a place in which to live, to have medical care when ill, to have sanitation needs provided for, to have access to adequate transportation services in moving from place to place, etc. Today, the distribution of the available resources among Georgia's people leaves many without these fundamental need satisfactions. Major differences and major problems exist today among various types of individuals—whites and Negroes; rural and urban dwellers; the young and the aged; the workers and the non-workers; the religious and the non-religious; the educated and the non-educated; etc. Certain needs are more closely associated with certain types of individuals than with others. There is discrimination against Negroes in Georgia, with perhaps a growing amount of discrimination by Negroes against whites. The health needs of older persons are considerably different from those of the young and so forth. Finally, the unique pattern for each individual is perhaps the key to his satisfaction with his life style and situation. Somehow, within the conditions which will exist in Georgia at a temporal point in 1985, each individual will respond on the basis of his own satisfaction levels. How such determinations will be made is not discussed in the position paper.

Professor Matheny does mention the inequalities which exist among Georgians; he does stress the increasing rate of change we will continue to experience; he does emphasize the importance of relationships among people which he believes will require changes in attitudes toward authority and its limitations; but he seems to deny the existence of any central value system which will continue to bind our people together, and more importantly, to ignore the fundamental characteristics of race, sex, and age which determine most social roles. Perhaps we are to have a society within which race, sex, and age are no longer conditioning facts, but the world has never seen such a social order in its history.

There are a number of specific points which evidence developed through various research efforts does not support. For example, he states that "Middle class blacks . . . are imprisoned." More sensitive interpreters now speak of "the affluent black America" and the "other black America," strongly delineating the freedom of the first type in today's world. He stresses that mobility (and here he evidently refers to spatial mobility), produces a sense of "rootlessness and loneliness." If the rate of spatial mobility is as high now as he indicates, then the manifestations of "rootlessness and loneliness" should be much more visible in measured rates of mental illnesses, suicides, divorces, etc., than they are. In his examples of rats, he points out that the greater the density the greater the "pathological togetherness." If satisfaction is to be derived through "interaction," then "togetherness" would certainly permit maximum interaction. But he calls the resultant congested conditions "unsanitary and unpleasant," and one can only ask "To whom?" The rats? Congestion, as the "cause" of a "behavioral sink" is not adequate. Many peoples in the world's history have and do live in extremely dense spatial areas and still reproduce healthy children who follow the values of their group while some adults create works of art, perform the necessary work, etc.

Current evidence strongly points to the slow-down of rural to urban migration in Georgia. The movement is among urbanized peoples who usually relocate in order to receive job and economic advantages. Thus the living situation of such mobile people is usually enhanced, permitting them more of the society's material goods and opportunities. Consequently, such a flat statement as "High density population tends to create social pathology" can be contested, and irrefutable evidence should be offered before this becomes a statement of fact.

There certainly is a large number among the current youth population who reject through action the "pressures" Professor Matheny identifies. These youth reject work as the ultimate goal, reject responsibility to the nation through military service, reject material possessions as the source of satisfaction, and stress exactly what he indicates may be bad for rats—togetherness, intense interaction, constant involvement. These youth may well be in leadership roles by 1985, and perhaps their values will then dominate. Certainly, if our current educational efforts are considered as sources for producing some other pattern, such efforts have failed in part.

On the other side of the picture, there is an increasing number and proportion of Georgians who seek material success, including holding down two jobs instead of the traditional one. They have found enough satisfaction in their way of life to marry, have families, participate in church activities and civic clubs, pay their taxes, and remain convinced that the United States and Georgia are good places in which to live.

Professor Matheny concludes with the statement of fact that changes will occur in the years to come. This is a truism, meaningless unless the nature of such changes is identified. He places his salvation for the individual of the future upon public school education. What is the future role of the family, the church, civic organizations such as Boy Scouts, the FFA, YMCA, etc? Today we know through empirical studies that the average young person has spent more hours, by the time high school is completed, in watching television than in receiving classroom instruction. We also know that racial prejudice is directly associated with age—as the age categories move upward, the proportion of white individuals expressing race prejudice increases. Those Georgians now 60 years of age and over will probably be dead by 1985, and the new generations replacing them will be less prejudiced. National television presents a form of national values which may influence the child much more than his classroom routine.

More specifically, Professor Matheny suggests that Georgia's public schools will teach future generations "how to learn, how to think, and how to make decisions," as well as teach them to "appreciate individual differences and to possess the ability to relate successfully to one another." Finally, his school solution would also "equip them to be self-governing, responsibly independent human beings who can live at peace with themselves." Unfortunately, he does not tell us how this can be accomplished or who has the skills and knowledge to accomplish it. Many Georgians believe these goals are being achieved currently by the more effective school systems in the state. There is also recognition of differences in Georgia's school systems— some are effective, some ineffective. Some principals are efficient, some not. Some teachers are adequate, some inadequate. But if the family is to be pushed aside from its traditional responsibilities so that public schools can accomplish these educational goals through the twelve-months school year, the introduction of sex education, etc., then the fundamental moral and legal unit upon which this nation was founded will rapidly be destroyed—the family. No school experience can equal the impact of the ideal family relationship on the child; no school experience can compensate for the lack of an adequate family experience. Human individuality is created at inception, nurtured through primary family relationships, and supported primarily through bonds of action—not the process of formal education.

critique:

The Individual in Georgia

By
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DR. MATHENY's paper, "The Individual in Georgia 1969-1985" is excellent!

I can only underscore certain points which he made, discuss some means of implementation, and offer some additional thoughts which I believe are consonant with those of Dr. Matheny. My only negative criticism concerns the organizational subheadings which do not adequately encompass the range of points made under them.

Dr. Matheny's focus on change deals with the crucial element of our time, and it is certain that the tempo will continue to accelerate. The question is whether Georgians will be spearheading constructive change or grasping at a past which never existed. Many, but still too few, Georgians have been at the cutting edge of progress. The majority can forge ahead in the next 15 years if we make the educational changes outlined.

Dr. Matheny accurately described the migration to the cities from the rural areas and the fright-flight syndrome affecting the racial composition of urban neighborhoods. In spite of research which shows that property values do not decrease in integrated neighborhoods, too many whites will continue to stampede at great cost and inconvenience to themselves until there is constructive planning which will insure genuine residential freedom. Part of this needed change which will occur before 1985 is the incorporation of metropolitan areas under one governmental organization. This is a necessity for the efficiency of the operation of the police force, water and sewage, community services, education and the maintenance of the economic vitality of the entire area. The existing unholy alliance between white segregationists who abandon the inner cities and the black political aspirants who want a black political base will have to fall by 1985 to the economic, if not the moral, logic of a biracial society.

By careful metropolitan planning, the urban poor can be dispersed into decent housing in every area so they can gain maximum educational benefit from association with middle class academic standards and resources while giving the middle class children a needed realistic cultural exposure. This can be done as soon as there are enough Georgians dedicated to making the American dream a reality. It does not even have to wait until 1975. The research has been done, the means are available, only the will is lacking. The wisdom of this action will be apparent to the majority of Georgians as the encrusted, enshrined myths are swept away through education in the coming decade.

Dr. Matheny is quite realistic in putting the emphasis on process rather than content in education. Unfortunately, he is also realistic in stating that this is not the emphasis of today's teachers. The scientific method of investigating is a key to future problem solving rather than the memorization of the facts of the moment. The acceptance of the transitory aspect of truth is part of Dr. Matheny's advocacy of the concept of change. All learning processes, however, are not by means of scientific method or deductive or inductive logic. The reality of personal emotional experience must not be denied in the clasroom. Few, if any, human activities are purely rational. Rather than regarding emotions as impediments to acadamic achievement, the motions must be recognized, studied and experienced openly as valid curriculum content. Recognizing this is as important as the philsophical and scientific view that mind and body cannot be separated. Intellectual and emotional development cannot be divided either, if a balanced mature adulthood is to be achieved. The education of the emotional life of the student has been almost totally ignored with the result that students are not prepared for personal relationships, handling trauma or richly enjoying the fullness of life through awareness of the senses and emotional as well as intellectual responses to experience. The greatest need, therefore, between now and 1985 is a carefully planned human relations training program at all academic levels. This program should have a primary goal the enhancement of self and environmental awareness so that intellectual studies will be enriched by involvement of the students' total personality. This is not a specialized, "tacked on" area, but an absolute necessity if students are to be prepared to cope with and adapt to the rapid changes occurring by 1985. Several specific things can be stressed in this aspect of teacher training. Principles of motivation, persuasion, mental health, and the recognition and encouragement of creativity should be studied. Teachers also need to learn techniques for stimulating interest and enthusiasm.

Teacher preparation must include skill in eliciting response from the hesitant, channeling the over-responsive, and guiding the inappropriate respondent. Very sensitive application of behavior modification techniques is necessary to accomplish this. Teachers must be sure that they themselves show appropriate responses through inflection, manner, facial expression as well as verbal content. The non-verbal cues often influence students a great deal more than what is said. The most important thing a teacher can do—especially in the age of mechanical teaching tools—is to care if the child learns and communicate that caring to the child in every way.

Dr. Matheny referred to the "school without walls" approach. One method of achieving increased awareness is preparation in the classroom for an experience in the community after which there is a follow-up analysis utilizing original ideas from the students. Thus a departure from the teacher's view and the textbook is encouraged. For example, instead of merely reading a civics book on how justice is supposed to be administered, classes could be enlightened regarding the differential administration of justice by spending time in a courtroom, bail office, and police station.

In the last 15 years it has been found that physics, chemistry, and biology could be learned by elementary school children. In the next 15 years it will be found that human relations, psychology, sociology, and economics can be learned by elementary school children. The latter subjects, in the opinion of this reviewer, will be much more relevant to the success and happiness of the individuals and the society. Even in crass terms of vocational success, research has shown that poor interpersonal relations cause far more job losses than lack of technical skill, yet schools ignore this aspect of life almost completely and leave this kind of learning to chance.

Interpersonal learning will call for some new approaches and even some new personnel categories in schools. For example, dramatics, role playing, and non-threatening psychodrama can become standard classroom procedure. Until teachers are trained in these approaches, each school might employ a specialist in dramatics and human relations to assist teachers in these methods. This approach can be the stimulus for classroom discussion of interpersonal learning problems and will have the fringe benefit of involving children more creatively in class activity. Much psychological and sociological research and principles which are currently taught in college can be adapted to the elementary level. In fact, to wait until college age is to wait far beyond the optimal age for personally employing the principles of life adjustment.

Another new career category which is needed is the teacher's assistant who would serve as an adult whom students could depend on for emotional support. Academic preparation is irrelevant to this role. This person must be one who radiates love and caring and can genuinely express these traits to children physically and otherwise. This person can help counter emotional deficits which cripple children for life.

Dr. Matheny underscores his statement that the school's curriculum must not be provincial in tone. In order to prepare Georgians for life and commerce in the jet age, it is imperative that elementary school children be given a chance to learn non-European as well as European languages and cultures. Humanized geography can be best taught by school systems employing citizens or former citizens of a wide variety of established and developing nations to conduct this phase of education. A college degree should not be required for this position. Obviously a single school system could not teach every language or employ a person from every major culture, but even small school systems could easily employ one European, one South American, one Asian, and one African. By chance, different schools would have different nationalities represented and the net result statewide would be that some Georgians would be able to relate to people of almost every country. Pupils do not learn that real people live in various other countries from sterile geography books which may describe rivers, mountains, exports, and imports. This non-humanization of other countries makes wars thinkable. What I am suggesting is like a Peace Corps in reverse because we have much to learn that is worthwhile from even the poorest of the developing nations.

This education for world living is not only appropriate for the promotion of peace and opportunities for the entreprenuer of tomorrow but to prevent untoward effects of automation in the U. S. People should be emotionally and educationally prepared to move to developing nations where skills, which are made obsolete in the U. S., are needed. For example, fewer farmers will be needed in Georgia in 1985, and yet the world will still have a food shortage. People who know farming and who are prepared to live harmoniously in another culture, could move to another country temporarily or permanently and continue to practice their chosen career. The same would be true of industrial skills.

For those people who do not elect to move to another country to work, additional education for new careers will be needed periodically. This education should be paid for by industry and government so that individual income does not diminish during those periods. This will be an effective way to prevent unemployment as a result of automation. In fact, the payment of students of all ages for educational achievement should be initiated. It is poor economy for anyone to stop short of maximum educational development because of economic reasons. Level and quality of educational work should be paid for just as regular employment.

Education must be regarded as a life-long process with the built-in expectation that it will occur not only before but during one's working life and that it may be necessary to stop regular productive employment several times in order to concentrate on the upgrading of skills or the learning of entirely new ones. Formal education must begin by age three while deliberate informal education must be taught by parents prior to age three. The early start is indicated by research on early childhood education which is the most encouraging discovery in recent years. The findings show that a great deal of intellectual development is dependent on the verbal stimulation the brain receives during the first four years of life. Dramatic improvement in IQ scores has been achieved among impoverished children as a result of planned, sustained verbal stimulation coupled with emotional support. These very simple and direct methods of behavior modification can be taught to parents of infants as is now being done in the Edgewood Parent-Child Center in Atlanta.

If these educational procedures are employed on a mass scale and if the obvious crippling effects of malnutrition are eliminated, the low level of academic attainment which now exists in Georgia can be markedly improved by 1985. There is no excuse for our society failing to insure adequate food to all children.

Dr. Matheny's paper and my comments to this point make one assumption—that there will be human life in Georgia in 1985. Dr. Kenneth Boulding is quoted as follows "For the human race to survive, it will have to change its ways of thinking more in the next twenty-five years than it has in the last 25,000."

To facilitate this change, schools must place more emphasis on human understanding than on the understanding of the physical sciences which are being perverted to military use with resulting loss of security. In fact, twentieth century physical science sophistication has so far outstripped our primitive human relations principles of force, defense and retaliation that for survival it might be necessary to make the kind of investment in the science and philosophy of human relations that is now being spent on brute military force. Through this means we may give proper concentration to gaining the wisdom and maturity to constructively utilize the power that has been unleashed.

Growing Pains: A Look at Social Disorganization in Georgia's Future

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THERE are a number of factors which indicate an increase in the amount of social disorganization in Georgia in the immediate future. Whether these factors can be counterbalanced will depend in part on the understanding and education of the public and on the willingness of business and political leaders and educators to work toward broader and more distant goals.

If we look at a social structure as a type of container for people, and at deviant behavior of all kinds as a type of spillage, we can ask ourselves a number of questions.

Where are the weak spots in the structure?

What sources of pressure are making these spots give?

Is the container still appropriate for its contents?

Have the contents changed in nature or quantity?

Is the leakage a loss or a necessary safety valve?

And since we are dealing with people here—how do those outside the structure differ from those within and why?

In Georgia we have weak spots and more on the way; we have pressures and new ones building up; we have social structures no longer appropriate to many citizens; we have a changing population in both kind and number; and we lack consensus about which deviations are social problems and which are merely signs of change.

Our first source of disorganization lies in the breakup of the traditional agrarian racial caste system, with the consequent loss of roles for many who either find it difficult to learn a new one or find no new role available. If we define role as a set of behavior patterns which guide a person in his work and social relationships, we find that the unskilled Negro whose forebears worked in the fields no longer has that role available. The young of both races whose forebears engaged in small family farming have no work role and have not learned (as the middle class child often does) to view school in this light. The aged, whose experiences apply to a different life style, can no longer fill the role of advisor and have a diminished role in the family and the community.

All of these persons who find that their outlooks, skills, and habits have little value are to one extent or another spilling out of the work and family structures into welfare programs, nursing homes, sub-cultures, poverty programs, mental institutions, crime, or into "lives of quiet desperation" marked by chronic unemployment and family crises. Some of the ways of dropping out of the social structures are considered to be "social problems" and some are not. Some find social approval and others. are punished.

The inevitable dissolution of the old order has its advantages. One of these is the opportunity for creative reorganization to fit current conditions. There are large barriers to reorganization, however, caused by lack of understanding, reluctance to learn new behavior, lack of social responsibility, lack of political awareness and skill, and self-seeking on the part of economic and political vested interests. New social organization may therefore be the result of chance, expedience, drift or reaction in some areas rather than careful planning.

Added to the special problems of Georgia's social changes are the problems growing out of industrialization and the concentration and growth of population. These are the problems of alienation from work, alienation from community, alienation between the generations, alienation from norms and values, and behavioral sink.

Unless vital new forces are generated, the further industrialization of Georgia will cause the population to become more materialistic, more hedonistic, more personally isolated, less sensitive to the needs of others, less governed by internalized norms and moral standards, and less able to form stable family groups. In reaction to this trend on the part of the majority we will see an increase in the development of extremist subgroups (religious, social, political, and racial), a movement some are now calling retribalization. We must also say that working people will be better educated, fed, clothed, and housed and will have access to better medical, dental, and mental health facilities because of their higher income. This will cause an even wider gap between the life styles of those who have marketable skills and those who do not. This may mean more tension and possibly riots which will, in Georgia, have strong racial implications.

Because manual labor and many simple types of work are being usurped by machines, workers of this type must be upgraded to be employed. Those people who have remained near the bottom vocationally to avoid the strain of competition and responsibility may react to this increase in tension by deviant behavior. Other ill effects of upward mobility are loss of family solidarity, loss of tradition, and emotional impoverishment. These, in turn, tend to cause some degree of deviance, directly or indirectly.

The keys to many of these problems may lie in earlier education, more relevant education, more democratic education, and a strong adult education program.

The manner of instruction needed is also indicated. To prepare students to work and live in the type of society we will become, education must become more participatory with emphasis on individual and small group problem solving and democratic decision making. This will require intelligent, flexible teachers and administrators and reorganization of many traditional structures.

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Just as every medicine has its side-effects, every system of regulating social behavior has its handicaps. A society which promotes competition has losers; a society which works hard to prolong life must support an increasing number of elderly citizens, and so on and on. As we look to the future to determine what action we must take to get what we determine we want, we must be cognizant of the *cost*, not merely in terms of money, but in terms of the mental and physical health of our citizens and the quality of life they will live. And if we find that the most efficient solution to one problem will create or intensify another, we must be prepared to deal with the situation creatively and to take an honest look at our assumptions and priorities.

It is a finding of psychologists, as well as an observation of common sense, that in order to be healthy and happy a person needs something worthwhile to work at and people to love and live with. A social system to be successful must make provision for filling these two needs.

The first criteria mentioned above, that of providing a work role for every individual in society, is of special interest to us in Georgia because the change-over from rural/mechanical to urban/technical is leaving a significant number of our people without appropriate roles and will possibly displace more in the future. It is oversimplification to discuss poverty as simply a financial state or even as primarily a financial one. We have virtually no people who live at the level where a roasted lizard is considered a meal or a grass hut a home. What we do have, however, and increasing numbers, are many people who, by reason of lack of needed skills and habits, have no productive role in our society. In a simpler society where people live close to the physical world, each person has a role suitable to his age, strength, and skill. In our society an increasing number of people have roles only as consumers.

If we define role as a set of behavior patterns which guide a person in his work and social relationships, we find that some people are still acting out obsolete roles and that some new jobs and situations lack traditional behavior patterns.

Children, who once had simple tasks in the home, have been replaced in this role by appliances. With no chickens to feed, no wood box to fill, no water to carry, their only role is as consumers of educational services and receivers of care. The elderly, who once served to maintain traditions and give advice, find that their knowledge and experience are out of date and unwanted, and they also must be content to be consumers only.

The children and the aged of course exist on every social level; however, there are *classes* of people of all ages who also find themselves without a productive role. For this reason we wish to discuss poverty as it occurs in Georgia at the present time in terms of lack of a productive role in our society. Who lacks a role in our work life? Why? Can he be trained to assume one? How can roles be found for him to fill? Will he adjust to the change? These are some of the questions we need to answer as we look at social deviance in Georgia. For by and large social deviance occurs when people become alienated from the activities, goals, and values of their society, when they do not or cannot play a vital role within the structure of society. The young person who has no constructive role in his family may become a runaway or hippie; if he has no contructive role in the classroom he may tune out or drop out; if he has no constructive role in the community he may withdraw from it into a subculture.

A person who identifies with an institution, who feels in touch with its sources of goods and power and its processes of decision making, will work within it easily and will work for its benefit. The child who has a positive role in his family does not run away; the man who has a positive role in his community does not riot in its streets; the student who feels that he has a positive role in his school does not drop out or storm the administration building.

In dealing with social deviants we should find out where the weak places in society's fabric are located and what pressures push these people out. We may find that some adjustment in society or in circumstances will allow the re-entrance of these individuals. On the other hand, we may find that some deviation constitutes a needed release from strain and that a deviation can become a respected alternative to the general pattern. History shows us that today's norm was yesterday's persecuted deviant group.

The Unskilled Negro

Our first mentioned source of social disorganization lies in the breakup of the traditional agragian racial caste system, with the consequent loss of roles for many who either find it difficult to learn a new one or find no new role available. We find that the unskilled Negro whose forebears worked in the fields no longer has that role available. The white person who has been trained to see part of his duty as supervision and control of the Negro population finds this role superfluous and contested. The young of both races whose forebears engaged in small family farming have no work role and have not learned (as does the middle class child) to view school in this light. The aged, whose experiences apply to a different life style, can no longer fill the role of advisors and have a diminished role in the family and the community.

The old agrarian racial caste system had set, well-defined roles for everyone, and even if one's place in the system was a bad one he knew what it was and everyone else knew what it was, and if it wasn't equitable, it was stable. The Negro, the middle class white person and the poor white all are having to change roles somewhat.

Now that the machine has become the "slave" in our rural economy the Negro is pushed out of his traditional place, and there are only two places for him to go: *out* of the economic system entirely, as criminal, idler, or welfare recipient, or *up* into the white man's territory. The Negro is in the trying situation, whether he or the white man understands it or not, of having *no* socially acceptable means of entering into a new role. If he makes a living illegally, he is punished at the white man's expense; if he collects welfare or lives off someone who does, he is looked down upon and harassed; if he moves up into into roles traditionally filled by whites, he meets resentments and resistance and his unfamiliarity with these new roles makes him vulnerable. He also tends to retain old role behavior which is inappropriate to his new role, and this causes anxiety.

Members of any society, because of the special ways which they have developed to cope with their environmental problems and because of the child-rearing methods they have used to produce the type of person who can use these ways of coping, have a large number of personality traits which consistently appear in members of the group. Ralph Linton has termed this commonly appearing combination of personality elements the ***Basic Personality Type*** for the society.[1] Linton calls the additional patterns of response which are peculiar to special groups within the society Status Personalities. These status personalities, whether ascribed to age, sex, race or occupation

> Make it possible for its members to interact successfully on the basis of status cues alone. . . . It is the specific overt responses which give status personalities most of their social significance. As long as the individual develops these responses, he can function successfully in the status whether he shares the associated value-attitude systems or not . . .[2]

The status personality of the southern, rural Negro was developed under the system of slavery and under the system of peonage which succeeded it. The overt responses which characterized this status personality and the attitude toward community and authority which it fostered will be discussed first in terms of the segregated hand labor system for which these characteristics were suited and then in relation to the integrated, automated community of the future in which these same characteristics will prove a hindrance.

The Negro in the rural South was conditioned to a negative, nonparticipating role in the larger community. His role was characterized by passivity, fatalism, secretiveness, and conformity.

Because of disenfranchisement and lack of skills, the role of the Negro in the community and on the job was a passive one neither requiring nor allowing much initiative. There are two principal reasons for this. Little if any difference in wages could be realized as a direct result of initiative or industry. Manual labor has a narrow range of achievement. Second, hiring and firing was based only partially on productivity and dependability. A southern landowner who would retain a tenant year after year despite incompetence, stealing, absenteeism, or even periodic arrests for fighting or making whiskey, would on the other hand dismiss him on the spot for refusing to say "sir."

Consequently, because barriers to advancement seemed so great, and because the routes out of such a life were difficult and hard to find, the Negro tended to be fatalistic, hedonistic, and to look toward rewards in heaven rather than in a temporal future. Since proper status responses rather than industry and ambition determined his ability to get work, and since even the Negro teachers, the most respected representatives of achieved status, were hired by an all white school board, it was far more basic to survival to "stay in one's place" than to be ambitious.

Because the southern Negro was subject to the law but rarely protected by it (or from it), and because, especially in rural areas, he was often at the mercy of his employer for subsistence, he was, in his relations to authority and to the community as a whole, secretive rather than open. Sidney M. Jourard found, in giving self-discipline tests in Florida, that Negroes were lower disclosers than whites, even when tested by a Negro examiner. He also found that lower class people, regardless of race, were lower disclosers than middle class people; however, tests with Negro college students showed that, except to their mothers, they disclosed relatively little information to anyone.[3]

The rigidity of the system of segregation in the deep South precluded social experimentation. The interactions were rigidly defined.

> The specific response patterns of a status personality are presented to the individual in simple concrete terms which makes it easy to learn them. Social pressure toward their assumption is constant, and adherence to them is socially rewarded and deviation punished. Even the internal conflicts which may arise during the assumption of a specific response pattern which is at variance with one of the individual's value-attitude systems are not too disturbing. Although they may be vigorous at first, they tend to diminish and finally disappear as the response becomes automatized and unconscious.[4]

Consequently the southern, rural Negro was conditioned to conform.

At the present time the direction of our social development is from rural toward industrial and from segregated toward integrated. The status personalities formed under the old system are becoming less and less functional. In a situation where the Negro must function as a member of the total community, his success can no longer depend merely on his willingness to interact passively within a framework, but must be based on the ability to compete and cooperate in a positive way. He will need to be acitve, ambitious, open, and inventive.

As the road is made more and more clear for the Negro to participate in politics and as equal opportunity on the job becomes a reality, the role of the passive non-participant must give way to initiative and responsibility. Acceptance and fatalism are severe handicaps in a social order where industry and ambition are rewarded. Conformity must give way to invention and experimentation. When an old role dies, one must be developed to take its place, and a swing from submission to hostile aggression is often an emotional reaction to the anxiety and insecurity caused by the absence of a stable role.

One key to initiative, ambition, and invention is the development of self-disclosure. "The willingness to be open, to reveal or disclose self . . . has consistently in Jourard's data correlated with positive adjustment."[5] The emotionally "closed" personality shuts off communication and, in keeping information in, also walls it out. One of the most important areas in which a "closed" personality retards the development of the individual is in education. The student who will not ask or answer questions in class, who will not attempt serious communication in writing, and who is inhibited in testing situations, does not learn much and cannot let anyone measure what he does know. An authoritarian teacher or system can intensify this problem without being aware of it, and our schools, especially our Negro schools, are authoritarian.

Up to this point we have dealt with a broad picture of the status personality traits of the American Negro in the rural South. Can we say that these are the dominant personal traits of the typical individual? Since the Negro's status-linked responses are evidenced toward the white community and toward those in authority in general, they determine behavior only *up* the chain of status. For example, a Negro woman who is passive and subservient in her work environment may be quite autocratic toward her own children, who may be passive and subservient to her. According to Erik Erikson, "Each system, in its way, tends to make similar people out of all its members, but each in a specific way also permits exemptions and deductions from the demands with which it taxes the individuality of the individual ego."[6] All this is to affirm the fact that although the status personality of the rural Negro may be in evidence in the classroom and on the job this does not represent his entire complex of responses or his potential, but merely his response to any person in authority.

As any extreme breeds extremes, this passive subordinate behavior, when abandoned, gives way, especially among the young, to aggressive and defiant behavior. As the Negro of necessity changes his behavior, we can expect some of the change to be extreme during a transitional period. This is an area where emphasis on democratic participation in our schools is vital to the preparation of good citizens.

The social phenomenon of dominance/subordinance, which exists in every society and indeed throughout the animal kingdom, is expressed more directly and is less sublimated into symbols such as money and education in the South. The Negro must give up his submissive role to survive in a society where the machine is the laborer, and the southern white must channel his learned need for dominance over the Negro into dominance over things and symbols rather than people. With the area's already high rate of violence, the added strain of underplanned industrial and urban growth could produce an intolerable situation if these habits cannot be modified. As there is tension involved when obsolete behavior is retained, there is also anxiety involved in changing habits. Transitions are emotionally difficult for all who are involved in them.

The old agrarian caste system is almost gone. Reorganization along lines which fit our new realities is a must. Either we guide it into the best possible shape or it will shape itself. A good case in point is school desegregation. In the 14 years in which we have known desegregation was coming, positive planning on the part of educators and community leaders could have shaped the change. The attitude taken was "you have to force it on us, and you will see that it won't work." Even yet the schools of education tend to ignore the problems raised. Courses in education for "the disadvantaged" and related problems could have been useful and are still needed.

The Young

One concern of educators should be in planning a curriculum which will help young people understand the nature of their society and see themselves as part of it and which will help them learn the types of behavior that will enable them to do meaningful work in that society. Our technology is reaching the state of development which will allow a few creative and productive members to provide the necessities of life for a large number. At present those persons in the productive work force, adults from age 20 to age 64, are supporting in the U.S. close to an equal number of persons below 19 and over 65.[7] Add to this figure non-working wives, persons in institutions and hospitals, on welfare, or otherwise dependent on others although they are of working age, and we find that the machine has allowed a small group to produce much. Add one more group to the picture, the unskilled and so-called untrainable poverty-level population who have been dislocated by farm machinery, and we see that we do not need a large number of educated people in order to produce a quantity of material items. Consequently, from the point of view of *productivity*, it may be quite acceptable to employ only the qualified and support the old, the young, the black, the sick, etc., through pensions, welfare, guaranteed incomes, and other arrangements.

However, from the point of view of the mental health of the individual and consequently the stability and quality of society, *every one needs* work to do, and this need is not merely a financial one. Sigmund Freud says that to be healthy a man has to be able to work and to love. Abraham Maslow labels as "instinctoid" certain psychological needs which, he says, are basic to the health of the organism. The two human needs which he finds to be instinctoid are curiosity-satisfaction and love. To state this a third way we might say that a person needs interesting problems to solve; he needs to feel that what he is doing has value; and he needs to maintain affectionate relationships with others—a family, a community, a school, a country, etc. A person who is not employed or otherwise constructively occupied is rarely a contented person and finds it difficult to maintain good relationships with others who are working. The housewife whose children have grown up, the man who has reached the age of compulsory retirement, and the unemployed dropout all share a feeling of uselessness although they may show it in different ways.

As automation continues to replace men with machines, the problem of unneeded manpower will grow. And as those being replaced will continue to be at the bottom in education and status, the segments of the population least able to adjust will be idle. The implications are explosive. Whether these men are idle with empty pockets or idle with a welfare check is of less importance than the question of their reaction to being idle.

How can we prepare meaningful work for the next generation, and how can we help prepare them for a role in our busy society? Let us look at those who are already on the path to a life of underemployment—Georgia's public school dropouts. The 20,000 teenagers who dropped out of Georgia's high schools in 1968 will be in their middle twenties in 1980. They will be married and will have children. What will they be doing? The manual labor they once would have done will be done by machines. The many new jobs in education, recreation, and technical areas will be beyond their abilities. These dropouts are and will remain obsolete unless some program is devised to reclaim them and prevent others from following their path.

At present it is possible, especially in rural areas, to feel alienated from school as an institution and still feel involved and self-directed in the working world, but this is changing. Whereas once high school and college were an *alternative* to admission to the working world, they are now, especially high school, *preparatory* to admission. A person who enters the working world from the eighth or ninth grade is a powerless person in the sense that channels of promotion and job security are not available to him. He may make the error of attributing the temporary and trivial naturs of his jobs to his youth; by the time he realizes his error he is trapped in the status of an adult "boy," untrained and threatened by every year's crop of teenagers looking for work.

Let us look at the alienated teenager now—the lower class dropout, the middle class underachiever, the young agitator, and the hippie. What do these young people have in common?

Social scientists agree that alienation from institutions or from self on all levels of society has resulted from the development of an industrial society. This we will look at more closely later. But adolescents have a special problem in our society and their alienation from our institutions is beginning to have repercussions that we cannot ignore.

Childhood as a status came into being along with the idea of educating common people. Prior to that, infancy was followed by a share in the family work load or a position in another family where a specific skill could be learned. Children were part of the working world and were not merely consumers. The passage of child labor laws and the extension of education created another status, adolescence. Now the child had another waiting period before joining the working world. An indication of this shift would be the fact that in obtaining information on occupations, the 1910 census referred to all those *10 years* and above who reported employment, whereas the 1960 census referred to only those *14 and older*. With the addition of military service and graduate school it is possible for a man to be nearly thirty years old without ever feeling that he has a functional role or any power or responsibility in the mainstream of society. Alienation, as we will use it, refers to emotional reactions to nonparticipation or powerlessness in any institution, whether due to age, youth, lack of skills, ostracism, isolation, or any other cause.

If we look at young people as a group we find that a large number of them are ailenated from one or another of our institutions and some are alienated from all. We will look at this alienation in terms of those causes which are likely to continue and in terms of the social disorganization we can expect from it.

The five areas in which we will look at alienation among young people are the family, religion, education, the economic system, and the political system. Traditionally the primary institutions, family and religion, were not only closest to the child and most influential in his habit formation, but were most influential on the school and were the source of most societal change. Now the economic and political spheres wield heavy influence on the child's habit and value formation, are probably the most influential on the school, and are the source of most societal change. In other words, much of the child's life is now controlled by those institutions which are the least understood by him and the most distant from him. The implications for resistance to authority and lack of identification with the sources of power are clear.

During this process (which is still going on and will continue in the foreseeable future) of a swing in power and influence from the emotionally close institutions, family and church, to the emotionally distant economic and political systems, the school has remained pivotal. An essentially conservative institution, education has resisted many manifestations of this change but often the wrong ones and often for the wrong reasons. The resistance to integration, consolidation, sex education, and removal of prayers, for example, is largely an emotional reaction to the influences of the large and impersonal institutions which determine more and more of the child's habits and values.

The schools, however, if they could function as an independent institution, as free from pressure from all four of the others as possible, could produce children who would be able to live creatively in the family, the church, the economic system, and the government without being turned into robots or dropping out from fear of it. The schools could do this by being a training ground for true democratic living. If the curriculum were relevant and if the students were allowed real participation in setting goals, planning procedures, and in solving problems, the habit of involvement and the skills of participation would carry over into other areas. Such students would neither feel nor be powerless in modern society.

Whether this will occur is hard to determine. There is a strong movement toward more democratic education centered around achievement and self-development rather than competition and conformity. At the same time larger, more impersonal education factories are the fact in urban areas. And the type of person who can do a creative job of school administration can still earn much more elsewhere. Probably the conflict will continue to exist, ironically, through the conservative nature of local power which continues to think of education in a narrow, subject-oriented way. Consequently, children are as likely to be *alienated from education* as from any other institution.

Adolescence and the Family

The first institution in which we will examine the alienation of the young is the family. The family as a group where work was performed and skills learned has been changed since the industrial revolution to a center from which each member goes his own way. There is little work for children to perform in the modern household. The simple tasks are done by the food processors (shelling beans, for example) or by machines and appliances. The power mower is too dangerous for children to operate and a dishwasher is easily broken.

The middle class child becomes the ultra consumer whose only contribution to the family is a sort of glorified grooming; that is, a continual receiving of entertainment, lessons, services, and the latest in toys and clothing. The only way he can do something for the family is through self enhancement; that is, to be a credit to them by learning skills, dressing appropriately, having straight teeth, etc., just as a poodle does credit to the family by being properly clipped and eating the right dog food. Being good generally consists of playing a negative role: don't make noise, don't disturb the decor, don't play in the street, and of course later, don't drive too fast, don't smoke marijuana, don't get pregnant, don't grow a beard, etc.

Even the lower class child, whose parents are less likely to have appliances, is more likely than previously to live in small, city quarters and have no gardening nor animal care chores. His sole contribution to the family usually consists of going outside to play so he won't be underfoot.

To see this rolelessness clearly let us look at a contrasting situation. Many families are finding camping to be relaxing and good for family communication. On a camping trip the whole family is involved in the simple, *necessary*, physical activity involved in eating and sleeping. Children help gather wood, carry water, shoo insects, and perform other tasks; the father is involved in setting up a shelter and other facilities; the mother in cooking. All work closely together, and even the smallest child is involved, understands what he is doing, and *sees others benefit* from his activities. It is easy to see that, although life was hard in many ways for pre-industrial children, they learned more from their families in the way of skills and attitudes and could identify with their parents more easily.

This use of family camping (or of the growing interest in horses or boating) can, however, conflict with the father's need to display consumer goods on the weekend as a symbol of work status which is not otherwise discernible outside of his organization. Any of these family activities can be ruined by an assortment of expensive gadgets which the children are forbidden to operate. In an air-conditioned camper with running water and television, the children are again reduced to useless guests who must be continually entertained to keep them from quarreling.

As Georgia becomes more industrial and more urban, the problems of lack of family solidarity will continue to increase. Here again most of the solutions lie in the individual's understanding of the situation and learning ways to deal with it. Efforts by schools and businesses to acquaint children, especially boys, with the things that people do for a living and their importance become more essential. This problem of lack of identification with parents underlies much adolescent alienation. Traditionally, for example, a boy worked with his father in the field or workshop, forest or barn, and as he learned his father's vocational skills and became more like him in competence, he internalized his values and copied his social behavior. Identity-formation or role-formation was a positive process and a boy's masculine identity was learned in connection with his work role.

In a changing society the young cannot identify with the occupations of their parents as they could in earlier times. If the parent is rural his occupation may be phasing out, or the combination of mechanization and compulsory schooling may rule out help from his children. Much new machinery is too complicated and expensive to entrust to a child who could have safely worked with a mule and plow. If the parent is urban, the child often has no chance to see his father at work and may not really understand what his father does. A boy who encounters his father only at the dinner table, which is obviously his mother's area of decision-making and work, sees his father only as a consumer of services in the home and has no work role to imitate. A boy who sees planning, decision-making, and work in the family only in terms of the mother has trouble forming his masculine identity in terms of work role. He may see masculinity as simply being non-feminine and may act this out by rebelling against his mother rather than by imitating his father who, regardless of his dynamic behavior at work, may appear to his children as a person who only eats and watches television.

If, as may be the case, the father has no specialized occupation or is unemployed, the problem is intensified. The boy who sees his father as a person who cannot act within the economic system must see himself in the same way or reject his father as a model for imitation. The former choice prevents formation of a work role as part of the masculine identity; the latter is destructive to the family as an institution and may affect the child's masculine self-image. This fact may indicate, for one thing, the vital importance of dynamic male teachers in the schools, especially in areas where unemployment is common.

So far we have assumed that the father is present in the home. This problem of a masculine work role identity is certainly more severe in the fatherless household.

A number of recent studies have found that boys from fatherless homes, although they may adopt masculine appearance and attitudes, are decidedly more passive than boys with fathers.

> A father-absent boy might be less likely to dream of *making* a million dollars than of having the money simply fall into his lap. He would dream not of becoming a great industrial tycoon, but of holding a winning lottery ticket . . .
> In sum, boys from fatherless homes . . . may make a football jersey or a motorcycling jacket into a cloak of masculinity. But (research) points firmly to one conclusion—that these boys do tend to relate to their surroundings in the passive way that our society has, at least until now, considered typically feminine.[8]

If, as seems the case, the family structure continues to become more fragmented, we may expect passivity in school and on the job to increase. The recent move to prevent welfare regulations from forcing the unemployed father out of the home is a very sound one from this point of view.

Problems growing out of the family, whether it falls apart or remains together but without communication, are grave ones. Boys who lack work role identification with their fathers may have trouble finding congenial work or performing it adequately. A sentiment found often among middle and upper middle class boys is a feeling that their father's work was so unstimulating and without aesthetic value that they wanted no part of the business world. These young people, who have reacted by entering the arts or the academic world or who live a hippie-type life, blame the constricted, nervous, materialistic life their parents live on the work they do, which is not necessarily the whole story.

Boys who lack a sex-role identification with their fathers may have identity problems of a sexual nature. As we said earlier, a person needs to be able to work and to love. The lack of a father with whom a boy can identify can prevent the boy from filling either of these "instinctoid" needs and may result in his causing trouble to others.

Here we see how alienation from the work world and the economic system may be the result of fragmentation of the family. Yet the industrialization of Georgia, by increasing the number of people who work in plants and factories rather than on family farms or small owner-operated businesses, will tend to separate more children from their father's work life. This fragmentation of the family will therefore increase, with an accompanying increase in the communication and credibility gap in many families. This, in turn, will probably result in further rebellion on the part of the young in terms of rejection of conventional values and habits, rejection of traditional careers, rejection of the family as an institution, and increased homosexual behavior. The use of drugs, especially marijuana, seems to be a symbol rather than a cause of this. Young people do not use marijuana in *spite* of its illegality, but *because* of its illegal nature. It constitutes for many a mystique symbolizing rejection of an identityless, functionless role in much the same way that beards and long hair do.

Adolescence and Religion

The alienation of the young from religious institutions seems to be alienation from the church and from moral concepts rather than a lack of religious feeling. The complaint of young people seems to revolve again around the lack of provision for their direct involvement in the policy making processes and for their emotional involvement. Consequently, many young people are looking elsewhere to satisfy these needs.

Kenneth Cober discusses the problem of the bureaucratization of churches, especially large ones.

> In the early days of our country, Baptist churches took democracy seriously. It was common practice to hold weekly or at most monthly meetings in which church affairs were ordered and expedited . . .
>
> In those days associations of churches offered an opportunity for free discussion and involvement . . .
>
> Since churches have grown in size and complexity, it has been difficult to continue democratic procedures with wide personal involvement, either at the local or denominational level . . .
>
> The Baptist democracy of a century ago is in contrast to the formal well-lubricated, mimeograph-reported annual business meetings in which anyone raising a question is almost considered out of order.[9]

Young people who are concerned about civil rights and poverty often find that the older men who direct the policies and operations of the church are annoyed by these ideas and block their attempts to work through the church on these matters. The Peace Corps, Vista, and a variety of tutoring groups for culturally deprived are using feelings and energies which once might have been channeled through churches. All of these facts are quite well known to religious leaders and attempts are being made to involve the young.

The other area of complaint is the unreligious nature of the middle class church. As the church has become more intellectual and demythologized a corresponding hunger for mystery has built up outside the church. The number of young people involved in astrology, ESP, and psychic phenomena groups is quite large. Other occult interests are meditation and yoga, and there is strong interest in Buddhism and Indian religions.

The third need of the young which they once satisfied in the church is the need for emotional catharsis. The idea that emotional religion is in bad taste is prevalent in established churches. The feelings that once were expressed in revival meetings are now channeled into group therapy, group dynamics, sensitivity encounters, and other phenomena of this type which are becoming quite popular. A variant of this behavior is the marijuana group turn-on, in which a group of young people sit in a circle, pass a marijuana cigarette around, and attempt to communicate their feelings to one another. Although most drug misuse among young people is strictly hedonistic, much of it seems to involve a feeling of deprivation of religious feeling, especially among the college students.

As we continue to become more urban and industrial, people will continue to feel more isolated from one another, and attempts to reestablish genuine feelings and communication will probably increase in number and variety. A phenomenon of this type which is taking place within the church is the prayer group; however, this generally does not involve the young people.

Indications are that the established churches will continue to lose influence on the public at large and on the behavior of their members. The above mentioned alternatives show every indication of continuing to grow. Group therapy for potential dropouts is already being used to good effect in local schools to reinvolve students who are severely alienated.

Many young people tend to become reinvolved in the church once they establish homes and come to think of themselves as adults. In this sense this type of alienation has more to do with self-concept than with the religion itself.

Adolescence and the School

Education in our culture is the first institution beyond the primary institutions with which a child has experience, and for those without religious affiliation it is the first institution beyond the family. For many children alienation begins at this point and, since education increasingly is the means toward employment and citizenship, the child who feels powerless and without identity at school carries this attitude into his adult life.

Alienation from the school can take a variety of forms. Some that might bear examination are the dropout, the underachiever, the highly creative or intelligent rebel, and the black student in the white school. Another type of alienation, which isn't apparent until after graduation, occurs when a student overconforms to the school and achieves high grades but does so at the cost of becoming alienated from his own ideas, feelings, opinions, and creativity. This kind of student often comes to grief at a good college or in a responsible job where these qualities are called for.

In our society the normal progression includes completion of high school as preparation for entering higher education or obtaining a job. A dropout departs from this progression for some reason and may never reenter the mainstream.

The current official definition of a dropout which is used in gathering information is "A dropout is any pupil who discontinues school attendance, for any reason except death, before graduation or completion of a program of studies and without transferring to another school." This definition is now used by all school agencies by common agreement. Let us look at some figures on our dropout rate.

According to figures for 1966-67 compiled by the Office of Health, Education and Welfare, *Georgia had the highest dropout rate in the United States*. We were 50th.[10] On the positive side let us look at a comparison of the situation 10 years ago with the present. Georgia has come a long way. Of the group who began first grade in 1944 only 19 percent graduated from high school. Of those entering first grade in 1954, 46 percent graduated.[11] This seems to be quite an accomplishment until we look at the national average for students graduating from high school, which is 77.8 percent of those who begin it, or at a state like Minnesota, which graduates 92 percent.[12]

What are these young people like? A survey by Pupil Personnel Services of the Georgia Department of Education in 1966 described a typical Georgia dropout as follows.

> The 1966 dropout (was) male, Caucasian, ninth grader, 16 years of age. He has been retained twice and most likely repeated the ninth grade. His father received 6.7 years of education, and his mother went to school 7.4 years. The parents are living together with the head of the household being employed as a skilled worker. The average income of the family is $3909 with 43 percent earning less than $3000 . . . his parents have never visited the school.
>
> He said he dropped out because he disliked school, because he was failing most of his courses, because of economic difficulties, and because school subjects did not relate to what he planned to do or was interested in.[13]

This description was based on a typical selection made by high school counselors from those students who dropped out after entering high schools; however, indications are that the reasons given for dropping out would be the same for students who never entered high school.

A look at a specific system, Bibb County, shows a similar picture. Last year Bibb County lost 6,777 out of 12,416 students. This amounts to five percent who dropped out before graduation in one year. Here again the principal reason given for dropping out is lack of identification and involvement. Lack of interest, indifference, nonattendance, and poor work account for 63 percent of reasons given on dropout cards. Eleven percent give employment as a reason, but a check of those who dropped out to work shows that most of these actually do not find employment.[14]

An examination of these facts would indicate two conditions which encourage dropping out of school—a student who is alienated from the school and parents who are similarly alienated from education and/or who lack control over the child's behavior. As the family as an institution is losing its influence over the child and is outside of the school's direct sphere of influence, the adjustments which will keep more children in school longer will have to be made in the school and in the child himself. Some changes in the school might well include earlier education, including kindergarten, and in deprived areas nurseries as well. A child whose early experiences include planned sensory and verbal education and small group activities will not find the school room such a foreign and impossibly demanding place.

Another consideration for the older non-achiever would be the alternative of an adult education program. Many students drop out of school after having been excluded by their peers. Students reach the legal age to quit at the stage of development where social distinctions begin to be made in earnest and often quite cruelly. Dropouts rarely belong to clubs, teams, or other groups. An alternative educational system, not limited to teenagers, which combines basic education with work experiences, minimizes the pain of social ostracism which many lower class students feel at high schools with a middle class orientation.

Also to be considered is the importance of teaching the student to see the necessity of his course work. Before we can communicate traditional subject matter to the potential dropout we must communicate the nature of our society and the relevance of education. In the electronic era we are entering he must understand that in order to be employed he must be able to do something a machine cannot do yet, and to *stay* employed he must be able to learn new skills as machines usurp old ones. He must also somehow come to see himself as a person who is able to do this.

Just as dropping out of school is a form of social deviancy which damages the individual in later life, it also damages society. Nationally there is 10 times as much delinquency among dropouts as among those who remained in school.[15] Not only is the dropout more likely to break the law, but the non-achieving student is more likely to become delinquent than the student who performs adequately. In a review of 1,007 juveniles on probation in Georgia, 305 were dropouts. Of the 702 who were still in school only 90 were in the grade suitable for their age. One hundred and fifty-seven were five years or more behind.[16]

Dropping out can precede delinquent behavior; however, delinquent behavior can also end a child's education. Educational facilities at detention centers are minimal, and a stay of several months in one of these for a high school student can cause him to lose a year's school credit. At Alto juveniles are placed in an educational program only if they indicate that they want to be. What the others do with their time is hard to imagine. The Governor's Commission on Crime and Justice has recommended that juveniles under 17 at this facility be transferred to the Youth Division and that "programs at Youth Development Centers should be expanded to include more participation in local church, school, recreation and work programs."[17]

The number of young people who fail to re-enter school after return from an institution is discouraging. Often the student has fallen farther behind his peers and the local school may not encourage his return. Bad habits learned in an institution and difficulty in finding work may then serve to push the young person out of the social system altogether.

A second group of educationally alienated students might be described as underachievers. These students, with varying degrees of grace, plod through the years and courses doing only what is required of them without much understanding, awareness, or enthusiasm. They regard most of their subject matter as dull and irrelevant, and their involvement is principally social. They continue to attend school because their parents tell them to, because their friends are there, or because they enjoy participating in sports. Students of this type can sometimes be "turned on" by dynamic teachers, motivational programs, or highly practical courses which relate to their current interests such as beauty culture or automobile mechanics.

A third group of students who are often alienated from the system are the very creative or innovative, highly intelligent or intellectually active students who find the classroom to be too regimented, too slow paced, or too authoritarian. These students, who may or may not be essentially undisciplined, need a democratic, participatory atmosphere and teachers with sound preparation and broad interests. Students of this type have to act, and if their creativity is not given a channel, it will become destructive. They will often work very hard if given direction and freedom by an interested teacher while behaving abominably for another. Some large systems have experimented with special small schools centered around independent study and small group work for students of this type. Students in this group rarely drop out of high school; however, attitudes and habits of resistance and rebellion learned in high school carry over into college where the students suddenly have freedom and no experience in using it. A great deal of intelligence and talent is lost when these creative students fail or drop out of college or dissipate their energies on trivia.

Large, impersonal, urban high schools and colleges are a torment to the active student who desires both self-determination and involvement. Many of the more urban and industrialized areas of our country are learning this now through an epidemic of student uprisings.

A problem which will be increasingly evident is the student with a minority group culture in a school dominated by white teachers and students. Until recently Negro students in formerly white high schools were volunteers who were upward mobile and relatively self-confident. With increased integration many less confident Negro students will find themselves faced with social, academic, and behavioral demands which may cause nervous reactions or even encourage them to drop out. The relatively relaxed, slower paced atmosphere of the Negro school will be sorely missed by those who have been used to it when they are faced with the more competitive, noisier, white-oriented classroom with its increased emphasis on attention and punctuality. Negro students have complained of tension caused, among other things, by smaller groups in the classroom and by necessity of spending the entire period focusing on the lesson. An Upward Bound student from Macon who transferred from a Negro to a formerly white high school complained that "at Ballard-Hudson the ones who didn't want to learn would go to sleep and you could get something done. At Lanier the students who aren't interested keep up such a racket that nobody learns anything." Such a change in atmosphere and in rewarded or punished behavior causes strain, especially with such impediments to learning as a very real language barrier and deficiencies in preparation. The probably completed integrated school system of the next decade will have great need of school psychologists, counselors, and understanding teachers.

It is discouraging to note how little the schools of education in Georgia's colleges are doing even to call this future problem to the attention of student teachers, let alone help them prepare to solve it. Not only will the Negro children be under a great strain, but white children who have been taught to hate or fear Negroes will need help with emotionally-based learning problems.

Adolescence and Business

We have looked at how industrialization has ended the traditional role of the father as a teacher of work skills and at the ignorance that many children have of the male work role. To a child a job is represented by someone he knows who performs it and has little reality other than through concrete examples. Mercer's Upward Bound program for poverty-level high school students found that these students when asked their career goals mentioned only three—teaching, social work and the armed forces. The very few who indicated secretarial work were found to use this term for any office work. In other words, children still tend to choose careers in terms of familiarity rather than in terms of a realistic appraisal of their abilities and aptitudes.

Children moving up from poverty level families no longer see business as the medium for mobility. They can identify with members of their educational and social agencies but not with the business community. An extreme form of this alienation is demonstrated by the fact that the prime targets for looting and burning in urban riots are the large food, furniture, and department stores. These represent, for lower class youth, the high pressure sales, the coupon book, the bewildering contracts, the layaway plans, the power and the unattainable glory.

Even for the middle class youth, business is no longer daddy's hardware store, Uncle George's corner drug store, or Mr. Smith's bakery. It is the chain store and the credit card and the office building where dad does something or other. A look at a trend from 1909 to the present shows that whereas shortly after the turn of the century one man out of four was self-employed, today only 14 percent are entreprenuers.[18] Consequently, most children tend to think of themselves in relation to the business community as future employees and consumers, rather than as active and creative agents.

The image most children have of industry is even bleaker, consisting mainly of time clocks and air pollution. Companies who will arrange tours for school children still do so in terms of showing the industrial process rather than in terms of *what the men do* who work there. This is an area in which the child's teacher is also likely to be ignorant and the child who returns to the classroom fascinated with a process still doesn't know what he has to learn or who he has to be to do this work. As Georgia becomes more industrialized some effort should be made to see that the industries, and the skills and materials they utilize, are understood by the young people.

At the same time that business and industry are receding from the average person in terms of his closeness to its power and decision makers, this same institution affects more of his values and desires through advertising and need-creating. Since more people are now employees rather than self-employed, the average person is more likely to be dependent upon big business and industry for income. The combination of decrease in power and increase in dependence causes resentments which range from an increase in vandalism, shoplifting, and employee stealing to looting and burning. Although crimes of violence are about 20 percent higher than before World War II, property crime rates are up much more sharply for the country. The rate for larceny of $50 and over is more than *550 percent* higher than in 1933, when it may be noted the motivation to steal was higher in terms of *need*.[19] As Georgia is undergoing the process of industrialization and urbanization which took place earlier in other areas of the country, we may see their experiences as a forecast of the changes in attitudes which may occur here.

One profound attitude change is that of the middle class student who fears his identity and his ideals will suffer from joining a large, impersonal concern. This feeling varies in intensity from a vague misgiving to a paranoid view of the business world as a vast evil conspiracy at war with America's youth. This latter view is prevalent, for example, among young hippies who seek to avoid contact with it either as a worker or as a consumer and who are constantly at odds with realistic interests. Hippies, along with young Negroes, for example, have come to view urban renewal as a tool by the business community to remove them altogether from certain areas, and they view the police as more interested in defending property than individual rights. The fact that most hippies are from middle and upper middle class families and have rejected those values makes them and their attire especially maddening to the working poor who are still struggling for those goals the hippies have discarded. This polarization in life styles between the upward mobile lower middle class youth and the student-hippie group is one phenomenon which cuts across racial lines and is best noted in terms of length of hair. What this portends for the future is difficult to predict, but the conflict will take place in the schools in terms of the basic goals of education, that is, career preparation vs. self-actualization.

This view of business/industry as an outside force can also be seen in the thinking of young people about laws. The idea that marijuana is harmless and is illegal because of the power of the liquor and cigarette industries is widespread among teenagers, as is the idea that the munitions industries dictate our foreign policy, once a quite radical concept.

Adolescence and Government

The last area in which many young people feel alienated is in terms of the government, both on the local and the national level. We have less alienation among young white people generally than other areas of the country. In terms of the government this residual lack of cynicism is further bolstered by the fact that our voting age is 18 in Georgia and our young service men and married couples do not feel disenfranchised as they do elsewhere. Factors which have eroded this feeling are resentment in the area of school integration (although this is greater among adults) and resentment towards the draft.

The Negro has historically been alienated from government both in attitude and in fact. This is gradually giving way to some interest and involvement, but feelings toward government among Negro young people are still highly ambivalent. Although many of them have strong positive feelings toward the poverty program agencies and the Supreme Court, their feelings toward the armed services are varied and range from very positive to very negative. Surprisingly negative feelings about the F.B.I. are expressed.

The preponderance of native-born population, the traditional respect for the military, and the conservatism of the South all tend to retard the development of alienation from the institutions of government in the South; however, the general trend in this country is away from nationalism and strong identification with the government. Further industrialization and urbanization may weaken this traditional tie also. Efforts at increased local control of politics, which should increase involvement, are viewed as reactionary by liberals and Negroes and, unless they are very broad-based and democratically conceived, will not serve to reverse the trend toward more alienation.

The combination of continued inflation and high taxes is disillusioning quite another group, and a feeling of powerlessness in the face of big government is on the increase among the middle class. One further complaint which cuts across class, color, and age lines is the matter of privacy. Resentment against the upcoming census seems to be building up among people who never got excited over wiretapping. The refusals to sign loyalty oaths, give up school prayers, register for the draft, fill in information about race and religian, and cooperate with census takers are varying forms of resistance to the idea that "Big Brother is watching us." A recent episode in which Atlanta lawmen photographed movie patrons drew more criticism than the pornographic nature of the movie. We may expect more resistance in the future to invasion of privacy by all government agencies, especially from young people, who have less to lose by doing so than their parents.

The Costs of Mobility

> *"I know how to live here, I know how everything smells, and tastes, and is. What could I ever search for in the world, except this again."*[20]

One of the greatest criticisms of the industrial system is the unbalanced natre of its blessings. It creates a wealth of material goods but does nothing to help us know how to value them. It gives us a maximum of leisure time and no guide as to how to use it. It extends our lives and leaves many of us with 20 empty years at the end of our work.

One of the things that our growing industrial economy does is to keep us on the move both geographically and up the "ladder of success." Our collections of old things, from furniture to bottles, to old cars, show our nostalgia for the things we have had to leave to succeed. And these things symbolize the values and habits that were lost along the way.

One characteristic of American society which is becoming more and more true of Georgia is mobility. In the industrial, integrated Georgia of the future many people will have moved into new fields of work, into higher positions, into higher income brackets, into more difficult schools or more urban settings. Any or all of these can be regarded as advantageous; however, any of these changes involves effort, stress, uncertainty, and often a crisis in identity. The moves from lower to middle class, from rural to urban, from unemployment to employment, from segregation to integration, are especially crucial in that they require new ways of seeing both society and self and new ways of behaving.

It is a rule of thumb that the later industry comes to a region the more advanced it is at its inception. Therefore it is safe to assume that regardless of the degree to which new jobs are created, it will be the skilled and educated people who will benefit. The world in which one could avoid anxiety by accepting one's lot as a manual laborer is gone, and with all good intentions we are going to try to force everyone into the rat race. The amount of emotional trauma this will cause both in individuals and in society is hard to estimate, but it is already in evidence. Before we describe some examples of reaction to upward mobility it may be in order to state that our aim is not to resist the entrance of Georgia into the modern world but to pinpoint the growing pain it will incur and suggest some remedies.

A good evample of upward mobility and its emotional cost might be the Negro adolescent. Let us look at the Negro boy who decides that he wants to succeed as society defines success; that is, to have a white collar job and earn a salary which will permit him to own his own home and a late model car and which will allow him and his family to dress well, travel, and obtain medical and dental care under pleasant and respectful conditions.

The first emotional cost he incurs is for his education. His family and associates are poorly educated. When he chooses to go to high school or college or both *he gives up the male members of his family as models* for his own behavior. This is always a necessary state for upward mobility but is also a step toward emotional impoverishment for many. Let us suppose now that this boy is very ambitious and wants a sound education and is advised to enter a formerly white school. When he makes this choice he makes a further payment—

he gives up the male members of his race as models for his behavior. Once he is enrolled in college he meets the additional hurdle (which is common to most freshmen) of being required to look at many formerly subjective matters, such as religious and social customs, from an objective point of view, at which point he may fear that he is also *being required to give up his own beliefs, ideas, and values* in order to succeed academically.

These losses of models, reinforcers, and beliefs may leave the young person with only the peer group to guide his behavior, and the peer group maintains many types of values and behavior. The student may begin to have considerable trouble deciding who he is in what he wants from life. Making decisions and planning for the future may present problems. A simplistic and emotional student movement, whether black power, anti-war or others yet to come, has real appeal for the student who is having problems of identity because it furnishes opinions, goals, and courses of action and allows him to act out his anxiety. Movements of this type will probably increase; however, they may become institutionalized and more moderate as well, as most movements do as they age and grow.

The black student is also presented with external pressure from a variety of sources—the solemn liberals who wish him to integrate; those blacks who have attempted to resolve their identify crises by re-adopting lower class Negro behavior and wish him to do the same; the hippies who want him at their parties to irritate the local "establishment"; and the upward mobile WASPs (white Anglo-Saxon Protestants) who do not like him no matter what choice he makes.

The urgent recent request of local black college students for a black psychiatrist on campus was their expression of very real emotional problems.

Integration and upward mobility are instrumental values, that is they are demonstrable and pragmatic, and as such can undermine older institutional values without replacing them with something as complete. As education destroys a fundamentalistic religious belief it does not necessarily supply another belief to take its place; as a child grows past his father in understanding and loses him as a hero, he may never really find another. The current interest of black students in creating a black history and a black culture is an attempt to obtain the white man's instrumental means—education—without having to make the institutional sacrifice. It will probably not be successful, but it may be emotionally useful to students whose only channel of mobility is education and whose only choice of direction is up. Like any regressive measure it will be abandoned when the pressures that occasion it lessen. Those pressures are the gap between the Negro and white schools and the gap between Negro and white income and values.

Geographical mobility also causes some tensions and identity crises. As highly trained technicians and management from other parts of the country come into the South there is a clash of values. Differences in the importance given to such matters as education, democratic ideals, conspicuous consumption, and social responsibility can be constructive and educational for people who have ceased to think about them much but, like any expansion, can cause strain. Many people find it painful to adjust their values to those of a new community and frustrating to try to maintain them. A common reaction to pain is withdrawal, and consequently many people who move often tend to avoid serious involvement in community affairs. This causes impoverishment both in the person who withdraws and in the community which has inactive members.

A "way of life" is the product of centuries of experiment, practice, and adjustment and is always a far richer, far more complete structure than appears on the surface. Take a rural community, for example, and the child-rearing practices of a hypothetical family. The children perform farm chores for and with their parents; the boys learn to operate the tractor; they go to the farmer's market with their father and help him. They may go hunting with an uncle and fishing with their grandfather. They attend an exciting and inclusive service in their country church and help with its maintenance. They attend a rural school and have a good chance to be on its athletic teams. All of these are ways in which the child becomes part of his community.

Now suppose one of these boys moves up to a higher income, say as an industrial chemist, and lives in a city suburb. All of the ways in which the male members of his family interacted with him are unavailable, and the urban substitutes are unknown or unattractive to him. Consequently, he may leave all the entertaining and training of the children to his wife. At the same time he is likely to be disappointed in his boys if they turn out to have different values and interests from his. This loss between generations of skills, values, and communication is impoverishing and a source of tension within a family.

Another consequence of upward mobility is the loss of friends. Anyone who has taught in a low-income area is aware of the group pressure against high achievement, especially among boys. The factor is also in operation in plants, where the group may put pressure on an especially efficient worker to slow down. Upward Bound students, for example, seem to progress at a better rate with less emotional difficulty if several of their close friends are also in the program. Having two members of the same family, siblings or cousins, increases the family cooperation and decreases envy and resentment.

These facts indicate that, where upward mobility is essential, as in poverty areas, it can be done with the least emotional damage or impoverishment if *groups* of interrelated people are helped to move upward together. Communities, families, churches, homemakers' clubs, classes, youth groups, and cooperatives are possibilities. An experience with one Manpower Development Training Class which received secretarial training several years ago may illustrate this emotional support. Those who graduated together not only still keep in touch with their teachers and each other but help each other find jobs and advise others on such matters as civil service tests and training programs.

Dr. Fred R. Crawford, who directs Emory's Center for Research in Social Change, which has just completed a three-year study of the War on Poverty, sees cooperatives as one feature of the War on Poverty which should be expanded.[21] A look at a number of cooperatives around the South shows both the strengths of the concept and some of the weaknesses of implementation. Lack of involvement of the young is probably the most serious problem in this area.

> There are now approximately 40 cooperatives owned by poor people in the South. . . . Between 10,000 and 15,000 people are being affected by cooperatives. Almost all are black people over 45 years of age.[22]

Judging from the experiences of these efforts, only a massive and heavily supported governmental program in this area could make this a viable form for the future, regardless of the soundness of the concept. A group of people with no experience in business will not make sounder decisions than its members are capable of singly. The lack of involvement of young people, the lack of ability of the old, and community hostility are more than sufficient to destroy most of these attempts.

A basic problem in many of the group action programs set up to aid those outside the mainstream was in terms of *role* and *power*. In many of the cooperatives where real power was in the hands of the poor, difficulties ranged from getting the participants to understand that the cooperatives belonged to them (that they had both power and responsibility) to the fact that the boards were too fearful to make proper business decisions, were too inexperienced to keep good records, and refused to accept community responsibility.

On the other hand, programs which were managed for the poor with nominal advisory boards who had no real power were criticized for this, and much was made of large administrative salaries in anti-poverty projects.

In programs where the poor have been organized as in Community Action Programs or block clubs, two goals often conflict. If the organization is to get political action or other specific results, participation and leadership from the poor themselves must be of a ritualistic nature, while the actual planning and directing remains in trained hands. On the other hand, if the chief goal is real participation and planning experience for the poor, other goals may have to be sacrificed and postponed. People whose lack of insight and skills have kept them from succeeding individually will not develop these spontaneously as a result of being organized. Learning new ways of defining problems and becoming familiar with the channels which exist for their alleviation may reduce alienation and foster leadership, but this takes time. If a knowledgable person can guide the participants first toward fairly simple goals which can be reached in a short amount of time, and then toward more complex and lengthy goals, each victory will be a learning process for the participants rather than more "luck" from a meaningless system.

Impatient activists tend to scoff at "a mystique of participation that invoked such venerated symbols of community development as 'grassroots', 'self-determination,' and 'self-help'...encouraged by a neo-Populist ideology promoted by OEO";[23] but if alienation from the mainstream perpetuates poverty, and if we wish to eliminate poverty, we cannot justify sacrificing participation to short-term efficiency.

In the long run a program which is set up with ample funding to begin with a competent staff, part of whose responsibility would be to train young adults to take over the decision-making functions, would appear to be most practical.

A non-farm youth program which would do for today's low income child what FFA, FHA and 4-H did for young farm children of our generation would fill a real need if creative planning and adequate support were to be found.

In short, individual mobility often causes alienation in the upward mobile person by separating him from the traditions of his family, the acceptance of his friends, and, through requiring him to adopt the customs of another class, from his own feelings and ideas. The person who must struggle up alone has to learn to postpone present pleasure for future benefits, to settle on few and narrow goals, and to change his behavior to accommodate the expectations of others. All of these things can cause tension and emotional impoverishment. The common mobility of a close group can be achieved at less cost to the individual. The welfare of the children of the upward mobile is also at stake. Studies in California have indicated that most hippies are the children of people who have achieved financial success at the cost of spiritual and emotional impoverishment.

One final consideration in our look at upward mobility is the psychological need of some of our poverty level population to stay at the bottom. This is surely not to say that anyone needs to be cold or hungry. However, some people simply have not the stability to work with others or maintain a schedule. Many precariously balanced people, if pressured into assuming responsibility, would experience great anxiety and the result could be an increase in deviant behavior such as mental illness, alcoholism, or drug addiction. There are also people who find manual labor or hand work therapeutic, who would become nervous or unhappy if given work which entailed responsibility or decisions. As the nature of work changes and we make a greater attempt to upgrade workers, we need to remember that remedial adult education must deal with attitudes and emotions as well as skills. Those of us who have worked with the women in Manpower Development Training Programs have found that the greatest barrier to finding employment for them is not their lack of skills but their absolute avoidance of self-determination. They seek escape in television, daydreaming, and gossip and, if denied these, will have headaches, crying spells, or indigestion. Many people of this passive, fearful type, if forced to assume a responsible role, will become mentally or physically ill. We do not want to be in the position of telling them in effect, "work or be institutionalized." As simple mechanical work is phased out of industry, we may find that the social loss offsets the material gain. This is something to plan toward both from an educational and a mental health point of view.

The Crowd

"Time was, and it was all time up to 200 years ago, when the whole of life went forward in the family, in a circle of loved, familiar faces, known and fondled objects, all to human size. That time has gone forever. It makes us very different from our ancestors."[24]

We have looked at social disorganization and deviance as a result of change and loss. We have found that instrumental forces can undermine institutional structures without furnishing anything to fill the gap, leaving people without guides to behavior, without moral and ethical guidelines to fit the new situations they confront. We have also found that when a person moves up from one life style to another he may sustain losses in terms of complexity and depth of emotional behavior.

Two other important influences are alienation, which we have discussed somewhat, and behavioral sink. Both of these are more directly based on the size and affective distance of the social structure and the density of population.

Alienation, as it occurs in a large, complex, bureaucratic society, can be in the form of alienation from the structures of society as a defense against loss of self-awareness, as it occurs among many intellectuals, hippies, revolutionaries, etc.; it can consist of alienation from some structures and not others, as in the worker who finds his job dull but is positively involved in styles and is an aggressive consumer; or it can take the form of accommodation and conformity to all the social structures but loss of self-awareness: that is, alienation from one's own feelings and creativity. Urban, industrial society appears to produce all of these.

Another way of categorizing this form of dehumanization is that which Melvin Seeman uses—powerlessness, meaninglessness, normlessness, isolation, and self-estrangement.[25] Let us look at local examples of each and local reactions to them.

Powerlessness involves the loss of control over important aspects of our lives. A partial list could include such things as compulsory school attendance, the draft, compulsory vaccination, taxes, census questionnaires, school integration guidelines, traffic regulations, loyalty oaths, time clocks, zoning regulations, acreage allotments, minimum wage laws, curriculum requirements, urban renewal, teacher certification, driver's license requirements, pure food and drug laws, equal employment rulings, gun registration, business licenses, school board rulings on hair styles and so on and on. Daniel Boone or Davy Crockett would regard today's citizen as enslaved. And indeed we do feel that way to a certain extent. A sense of being powerless in the web of society is pervasive, and extreme reactions to this are in evidence both from the left in the form of hippie-type dropouts and from the right in the form of motorcycle-type dropouts. More conventional resistance groups could be represented by the ACLU (American Civil Liberties Union) and the American Rifle Association. As society becomes more complex and restrictive we should see more pressure groups forming to protect individual interests. Rent strikes, underground papers, and protests of various sorts will probably increase. So will citizen apathy towards persons in emergencies and various forms of anarchy increase as the individual comes to see himself as increasingly without power or free will.

Meaninglessness we have discussed in part as the loss of class or regional institutional values and goals through mobility. Here events lose their significance and predictability and one merely acts within a framework without attempting to interpret or understand.

Normlessness involves the loss of accustomed ways to see or do things. New situations arise to which old guides do not apply; problems occur for which there is no established channel for solution or for which the established channels are no longer viable. Persons resisting fare increases in the Atlanta Transit System, for example, complained that there was no acceptable and effective means for doing this. When large groups come to *assume* that their goals can be accomplished only *outside of* established structures, then riots, revolutions, etc., are in the making. The sit-in, for example, has come to be accepted as a form of communication because the public has come to see that no alternative had been provided. This supplied a useful form of behavior which is no longer regarded as deviant.

Normlessness or anomie has been shown to have a positive correlation with juvenile delinquency. Areas of a city which are transitional in space-use or racial and class composition or which have a high turnover in population are considered normless in contrast to stable neighborhoods. And people who cannot conform for some reason tend to settle in these unsettled areas. Young people growing up in a normless environment tend to reflect this in their behavior.

Isolation can be traditional, as in a minority group, or it can be a reaction to feelings of personal alienation from dominant values. Inadequate self-image and insufficient self-esteem can result when we are exposed constantly to sets of values contrary to our own. Our self-image is to a large part governed by the way others value us and treat us. In a highly mobile, heterogenous, rapidly developing society one is continually being judged by alien standards, often without ever knowing quite what they are.

This inadequacy and anxiety in terms of identity also affects inter-personal relationships. Since the stranger's values may be different, we avoid friction by maintaining shallow relationships which remain one-dimensional. This lack of depth may be brought into relationships which *need* to be close, like the family. If marriage partners are merely playing the husband role and the wife role the relationship is impoverished, and if their values concerning these roles are at variance, the result is disastrous.

One movement of our time which shows a rebellion against the shallow relationship is the development of new in-groups whose members build each other up by sharing values. The hippie group, the drug group, the teen music group, the motorcycle gang, the black culture groups, etc., all represent attempts to build more secure relationships on a foundation of shared values. This is a way to identify and this phenomenon is growing in the U.S. and in other industrial countries.

This identity factor helps explain why the heavy drinker of alcohol is easier to cure than the user of drugs. Since alcohol is accepted in society, the drinker is deviant by degree rather than by kind. The drug user, however, is likely to belong to a drug subculture whose members share his values and support them. Only by exposing himself to the "alien" values of the majority and losing the subgroup identity can he cure himself. There is always the question in mind, "Did he join the subculture to obtain narcotics, or did he turn to narcotics to become part of a subculture?"

Seeman's last category, *self-estrangement*, is a form of alienation which appears to be most prevalent in the middle-class. It involves conformity to the prevailing norms, fads, fashions, and goals at the expense of personal development, self-awareness and creativity. The public schools in many cases tend to reward this behavior both in teachers and students. This type of alienation is not considered deviant behavior, nor does it generally lead to deviant behavior of other kinds.

The last phenomenon of increased population density which we will examine is *behavioral sink*. In a stable, non-urban area a person meets people in the course of the day and interacts with them directly or indirectly according to previously established status cues. Each interaction is fairly predetermined according to relationships and customs and causes little friction. In a crowded situation where differences in values and habits occur, many more interactions occur, and with more possibility for misunderstanding. The tensions which result from being around large numbers of people, many or most of whom are unknown quantities, have an effect on the emotions, behavior, health, and reproductive capacities of those involved. That this is not merely a political or cultural matter is shown by the fact that animals show the same tendency.

John B. Calhoun's celebrated experiments with Norway rats showed twofold effects of crowding—a severe pathology, especially in terms of reproductive functions and infant mortality; and a behavioral sink involving poor maternal behavior, passive non-involvement, homosexuality, hyperactivity, excessive fighting, and cannibalism. These results occurred *despite* adequate food, water, and protection from predators. The normal grouping of rats broke down, in terms of group size and sexual composition, and the decrease in nest building and in adequate maternal care and protection of young so raised the infant mortality rate as to stabilize the population.[26]

A study of various human cultures shows us that populations which can endure crowding usually do so through rigid, formal, and universally accepted rules governing behavior and interaction. A heterogeneous, industrial society with a history of admiring individualism finds close living unpleasant and reacts by an increase in every type of deviant behavior, including an increase in physical illness.

Education for Involvement

The schools are a socializing agent and as such can help children of all kinds find a satisfying place in the world. This does not mean that the schools should try to impose identical values on all children or play God. It does mean that children's learning needs can be identified and met without causing alienation from society, school, or self. These needs vary according to the individual and according to his background.

The lower class child should be helped to develop skills which will make him useful to society and give him some buying power. He also needs to identify with something larger than himself, whether it be a work group or an ideology. He needs to develop relaxing and satisfying ways of using his leisure time and the know-how to operate in this complicated society. The schools can help him do these things.

The middle class child's family will meet many of the above needs for him. He has, however, a special need for aesthetic training and education in the natural sciences which will help him see himself as part of nature rather than an irresponsible exploiter of it. The quality of life in the future will depend in large part upon the values of the middle class citizen.

The school has a special responsibility to see that the unusually talented or intelligent child feels that his ideas are respected and his questions welcomed.

This is a group that we can ill afford to alienate, yet most often do.

The skills of participation and the habit of involvement can be taught. All children need daily experience in participatory problem-solving and decision-making in groups of difficult sizes and with different kinds of people. Much withdrawal from these activities on the part of adults is due simply to lack of skill and not to lack of concern. This may require some retraining of teachers; however, this could serve a dual purpose by reinvolving teachers in problem-solving and decision-making in the school. Many teachers whose morale has suffered in aufocratic school systems would be rejuvenated by a structure which treated them as professionals. Teachers can become alienated, too.

Although an increase in social disorganization is indicated for the future, much of it will be side effects of great strides forward in many, many areas. As we have more deviant behavior we will also have improved ways to measure, understand and deal with it. A more educated populace and better schools can rise to the challenge of understanding social disorganization and finding ways to ease the pressure which causes deviation or to see and incorporate the good aspects of deviation into society.

The schools can be a vital bridge between the child and society, the family and the government, the present and the future and between the generations.

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critique:

Growing Pains: A Look at Social Disorganization in Georgia's Future

By Genevieve T. Hill,
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THE WRITERS of this position paper have appropriately identified, as the major social problems in the United States and Georgia, social disorganization, alienation, and continued dehumanization of given segments of the population, i.e., blacks, lower class school dropouts, middle-class underachievers, young agitators, and hippies. My acceptance of their list suggests similarities in our value systems. They attribute this increasing loss in human resources to the social systems of the family, religion, the economic system, the political system, and the educational system. Each of these factions of society do influence the behavior of people, do ascribe roles which they must perform and do mete out rewards and punishment.

Such is the manner in which a society survives. For group survival, there must be clearly delineated expectations of people. But not sufficiently emphasized in the paper is the fact that unless society provides the resources and opportunities for its members of all ages, classes, creeds, and ethnic origins to learn to meet its expectations, it will not be a self-correcting and self-evaluative society; it will not be a democratic society; it will not survive!

All societies have institutionalized processes for maintaining order in their evolution. All societies have processes for contributing to the growth and development of their members. The American processes are being jolted by the demand for change; changes initiated within the system (i.e., industrialization, mechanization) and changes initiated outside the system (i.e., school desegregation). The source of pressure for change does influence the readiness for and the acceptance of change but does not alter the fact that all change disturbs the equilibrium and makes new demands upon the constituents.

The writers did acknowledge that all the earlier referred to systems are crucially involved in the social future of Georgia. I would emphasize that Georgia's future social (dis) organization picture is dependent upon the extent to which all systems assist their constitutents with adaptation to change. Moreover, I view the educational system, the major socialization agent of today, as having primary responsibility for this task. Our educational institutions have the responsibility for contributing to "a more educated populace—which can rise to the challenge of understanding social disorganization," suppressing the forces which cause it and finding ways to assimilate the *alienated* back into the vital stream of society. To educate the populace to humanize society, a school system must examine its system of production, its production of education.

The educational system in the United States today is a part of the major system, American society. It has always existed to serve the over-all American system. In the pre-Civil War days, the main purpose of education was to produce a political elite to govern the country. With the industrial revolution after the Civil War, education was reorganized to give children of immigrant industrial workers minimum literacy needed to man the machines in mines and factories.

Today, competition from the Soviet Union influences the purpose of U. S. education, namely, the production of scientists and technicians to further our economic development, particularly in inner space and outer space. This purpose excludes consideration of the Georgia masses, both white and black, whose unskilled labor becomes more obsolete as automation and cybernation advance.

This position paper does give a charge to Georgia to develop a new educational system to meet the individualized needs of the alienated segments of its population. Although not spelled out in detail, the writers imply that this requires a new philosophy of education, i.e. a definition of the goals of education as the production of masses of people who are capable of problem-solving, decision-making, and contributing constructive social roles to Georgia's future instead of the production of technical and administrative elites. Such an educational philosophy would move us away from a track system in which each ethnic grouping successively tries to climb the social, economic, and political ladder on the backs of the groups below it as did Yertle the Turtle, of Dr. Seuss fame.

A new education system for Georgia requires a reorganization in methods, based upon the developments taking place outside the classroom and impressed upon young people by the mass media. As Margaret Mead has put it, children today are understanding things out of their continuous experiences that adults have to learn. Or, as many children (in ghetto community)) and young adults (of affluence) think, "Why should we go to school to interrupt our education?"

A changed system would have a change in teacher-student relationship, from an authority-submission axis to a transactional relationship built upon dialogue and exchange. Objectives and learning plans would be related to the interests which the children bring from outside the classroom. The teachers would be the guides, the facilitators of the students' mastery of existing skills and possible development of new ones. Such a reorganization with a spectacular increase in the use of educational technology would relieve the teacher for individualized instruction.

To fulfill its charge to educate for social organization, the Georgia schools of 1985 must become a place where parents and all adults, including teachers, can develop resources to solve the questions that concern them and where there is continuous interaction between different age groups, all learning from one another. The public school would then truly be a center for continuing education.

The position paper, "Growing Pains: A Look at Social Disorganization in Georgia's Future," carefully delineates the institutional forces which influence one's preparation for involvement or isolation in society. To the educational system, the major socialization force today, it presents the challenge to build a new system of education. Assuming a critiquer's license, I have shared some ideas toward this change which are described most dynamically in *Education and Ecstasy*, by George Leonard, Look Senior Editor.

I do believe that such changes will equip the educational system in Georgia to create people to function more adequately, to cope with change and to make socially responsible decisions that will benefit all.

critique:

Growing Pains: A Look at Social Disorganization in Georgia's Future

By Raymond Payne,
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MAN, as we know him, cannot live successfully apart from other people. We observe him in every time and place working, playing, worshipping, and living out his life within the framework of organized relationships with others. Thus, the *family groups* can be seen as a set of established, repetitive relationships of people, performing such basic functions as reproduction, care and nurture of the young, and preparation of individuals for specific roles in society. Other organized sets of human relationships are especially concerned with governmental matters, and it is these groups which help regulate and control man's actions toward other people. Numerous groups have developed within society to educate people, to provide religious expression, to furnish recreation and relaxation, and so on. The network of these human relationships and groups and the manner in which they function together to support social existence we may call social organization.

In an "ideal" society (i.e., one which would allow man to meet all of his needs satisfactorily) all human relationships, interactions, and groupings would be organized so that they supplemented each other, with a minimum of contradiction or conflict, allowing a person to move into and fill appropriate sets of social roles.

Of course, no such "ideal" society ever existed. Each society has to some extent fallen short in its organization (that is, is somewhat disorganized) so that its institutions and groups are to some extent ineffective or insufficient. In any particular aspect of society, disorganization may exist because of inappropriate social mechanisms—or disorganization may have followed a relatively organized state because of some breakdown of relationships or failure of functions due to crises within the society or pressure from without. It is assumed that observed social disorganization in Georgia may be the result of either of these, not just one or the other. Also, observed social disorganization which has indeed resulted from the breakup of formerly organized conditions may be the prelude to either further disorganization or reorganization into more widely approved forms.

About Social Change and Social Disorganization

The relationship between change and disorganization is particularly significant in Georgia at this time. The very rapid, but uneven, trends toward urbanization and industrialization, together with increasing communication and education, are bringing about extensive changes in almost all aspects of the older systems. Most of the changes, together with forces which are bringing them about, are approved and sponsored by those who see that the old must give way if more satisfactory organization is to be achieved; however, the changes are disapproved by some with vested interest in the *status quo*, or who for other reasons have not seen the need for changes. Still others may not be aware of the forces and trends, but are nonetheless caught up in the confusion and frustration of the times.

However, it would be a serious error to consider the whole question of social and personal disorganization to be accounted for by social change. Other causal factors are usually present along with the bare fact of change itself, and change may sometimes occur with little accompanying social disorganization. It must be remembered that extensive change, while generally favorable to behavioral breakdown, may in some instances be extremely indirect in its influence. Further, change is the normal condition of man and is to be expected—no society has ever remained absolutely unchanged for very long. It is only when change comes too rapidly, unevenly, unexpectedly, or as the unforeseen consequence of other actions that it will cause disorganization. Nor can it be said that every attempt to remedy disorganization will have undesirable side effects—not all medicines have undesirable side effects.

Some Assumptions

Before beginning to discuss the future of disorganization in Georgia, it is necessary to state some assumptions. Let it be understood that herein it is assumed that no major war will have occurred by 1985 and that internal revolution will have been avoided. Our government will not have changed form materially, nor will we have abandoned or basically altered our politico-economic system. We will still be operating as a mixed economy with a modified, regulatory democracy with a strong welfare emphasis, and ours will still be a commercial-industrial-service society with private property and unrestricted horizontal mobility. We will have no genuine depression, nor will we have experienced runaway inflation. Further, it is assumed that the *rate* of change will generally approximate that prevailing during the past 15-20 years.

It is further assumed that it is actually possible to establish objective criteria for the satisfactory functioning of society and thereby "judge" whether a society is performing well or poorly. For example, Ralph Linton said, "*. . . a society can neither endure through time nor function succesfully at any point in time unless the associated culture fulfills certain conditions. It must include techniques for indoctrinating new individuals in the society's system of values and for training them to occupy particular places in its structure. It must also include techniques for rewarding socially desirable behavior and discouraging that which is socially undesirable. Lastly, the behavior patterns which compose the culture must be adjusted to one another in such a way as to avoid conflict and prevent the results of one pattern of behavior from negating those of another (pattern).*" (Ralph Linton, *Cultural Background of Personality,* New York: Appleton-Century-Crofts, Inc., 1945, pp. 24). Using this broad standard, one can actually search out ways in which a society is falling short.

In like manner one can judge the adequacy of individuals' response patterns or the adequacy of a single behavioral response of one person. Heyns said, *"A response or a pattern of response is adequate or 'good' if it (1) reduces tension, (2) without unduly interfering with the satisfaction of other motives of the individual, and (3) without interfering materially with the adjustment of other people."* (Roger W. Heyns, *The Psychology of Personal Adjustment*. New York: The Dryden Press, Inc., 1958. p. 15).

Some Specific Aspects of Disorganization in Georgia's Future

Let us examine some types or examples of disorganization as they are likely to be manifested in our state in the mid-eighties.

Race Relations

The big breaks have already occurred. Old, fairly stable superordinate/subordinate systems of white-Negro accomodation were slowly, but extensively eroded in the inter-war period by education, inter- and intra-regional migration, industrialization and urbanization, and by the growing recognition of the unbearable economic and spiritual costs of segregation. World War II accelerated the pace, and the series of court actions climaxed by the 1953-54 period at long last broke the back of legal segregation. The 15 years since have been characterized by foot-dragging, legal maneuvering and delay, but also by fairly steady movement toward integration in most parts of the system and, more importantly, by a general decline in overt bigotry. Actually, it is now generally recognized in the state that segregation is a lost cause and that it is no longer politically expedient to preach race hate. With increased voter registration of Negroes, it is, in fact, becoming politically necessary to look to the wants and needs of Negroes. Also, Negroes are increasingly putting forth candidates and electing (with considerable white assistance!) them to important public positions. Most white children are now interacting at some levels with Negro children, and both seem to be taking it as nothing more or less than normal. Given 16 more years of changes in these directions (and there is absolutely no evidence upon which to posit reversal or significant deflections of these trends), one could find the race problem all but solved in Georgia. Further, given the vigor with which Negroes are attacking their own and general social problems, Georgia is likely by that time to have produced a significant number of individuals who will have contributed materially to the state's general development and of which nearly all Georgians will be duly proud.

Crime

The nature of crime will have changed—gradually moved toward emphasis upon organized big business crime, white collar crime, and political machination. Ordinary crime of the sorts predominantly acted upon now will have been reduced by the effects of increasing and improved education, reduction of poverty and ignorance by rational programs of intervention and alleviation, and as the result of the application of modern, improved knowledge of human and behavioral sciences. Reform and rehabilitation of violators will have improved, mainly because the process will have been of necessity removed from political hands and placed in professional, specialized hands. By 1985, the work now beginning with urban problems will have removed most of the necessity and opportunity for much of the crime now plagueing us.

Police work and law enforcement will have been improved by the clarification, specification, and definition finally emerging from modern Supreme Court decisions on the matter. In fact, now is the first time in our country's history that police activity has been formally and officially integrated philosophically into the total social system.

Despite complaints from many police and others, these decisions have definitely established police work as a tool of the community, not its tyrant, thus paving the way for professionalization and improvement while protecting the civil rights of all Americans. Arbitrary, discriminatory law enforcement is now spotlighted against the backdrop of larger American values and can be brought to task much more easily than in the past. This looks like *re-organization*, not disorganization.

Poverty

This subject was mentioned just above. However, it can be stated that poverty will be eliminated in our society, and quickly, not because it *must* be if we are to avoid revolution, but because so many among us have glimpsed, at long last, that eliminating poverty is a possibility. What a people such as we are consider both expedient and possible we will accomplish, given the resources now available for such endeavors.

Alcoholism

Alcoholism promises to increase rapidly in the state. More and more people are drinking and drinking more heavily than in the past, and with mental sets which seem conducive to the development of addiction—confusion, fears, frustration, etc. Cures are not being developed rapidly enough to conteract the trend. Treatment and handling of alcholics could easily emerge as one major drain upon the state's resources by the mid-eighties.

Drug Addiction

At the moment drug use is a growing fad among young people. Even if the fad declines and new people cease to be recruited to drug use, those already adversely affected will still be with us for decades. Their social effectiveness is drastically reduced, and there is the strong possibility that they will require public care and handling. The cumulative effect could be quite significant.

Gambling

Organized, illegal gambling seems to be increasing in Georgia, and Georgia seems unable and/or unwilling to cope with it. Thus, large amounts of money are drained from the pockets of Georgians, typically those least able to pay the cost. Other forms of gambling prey upon transients and visitors, thus losing for the state the respect and affection of those so fleeced. Politics seems to prevent the elimination of these latter ills. Even if some gambling were to be legalized—as seems probable—in this state, experiences elsewhere would indicate that certain illegal forms would persist and, in addition, certain undesirable side-effects of legalized gambling would develop. In summary, it appears that gambling will be a problem in Georgia for a long time—or until some new solutions are developed/accepted.

Prostitution

Many Georgians at all levels still believe that prostitution is inevitable, hence they do not fight it. Many others profit directly or indirectly from it, hence want it to continue. Police officials frequently profit, either in payoff or in easy, useful information, and therefore do not seek to eradicate prostitution. Family counseling continues to lag, sex education in school is resisted by the state's officials, marriage mills flourish, so that chances for marital happiness are reduced, thus creating a greater demand for prostitutes. However, our expanding economy, improved employment opportunities, improved understanding of sex and its role in life, together with the continuing liberation of the female should contribute greatly to making prostitution irrelevant in the seventies and eighties.

Suicide

Suicide rates promise to remain high and will actually increase for several segments of Georgia's population, especially Negroes, rural people, the young, and the very old. However, attitudes toward suicide seem to be changing—some of the shame and stigma seem to be decreasing and in a few decades suicide may become more or less accepted or even legalized, especially in the aged, the chronically ill, and the like.

Mental Illness

There is no reason to believe that the incidence of mental illness will increase. On the other hand, it appears that the care and treatment of mental illness in Georgia will be greatly and rapidly improved, thus reducing disorganization due to individual breakdown.

Family Disorganization

Practically every Georgian marries, even though marriage is not necessary. It is not necessary to have a wife-helpmate, since the nature of work has moved almost entirely away from the family-farm pattern; not necessary to have a mother for children who would contribute economically to the family enterprise; and not necessary to obtain a sex partner since emerging standards would permit considerable sexual freedom to a mature single male. Women marry, even though the modern community would freely permit a single woman to support herself well, meet reasonable sex needs outside marriage, even bear or adopt children. It would appear that marriage is not going out of style.

Divorce rates have declined for almost a quarter of a century and have been fairly stable for several years; also, most divorced persons remarry. Further, most divorces solve more problems than they create.

Marriage, as contrasted to more informal and temporary alliances, is increasing among poverty and minority groups. Marriage and remarriage among oldsters is increasing and meeting with less opposition than formerly from other age groups.

Recent studies show *more* family organization in poverty groups than had been suspected—different from the middle class prototype, certainly, but organized nonetheless.

Society as a whole may be disorganized temporarily (family-wise) as it moves away from the horizontal-extended pattern. However, there is rapidly emerging a new organization of a vertical nature—several generations closely related socially (physical distance notwithstanding), mutually concerned and interdependent, but within a narrow range of lateral relationships.

A form of "urban familism" is emerging in our time, with any one urban family likely to be existing in a network of supportive relationships with three, four, six, or even eight other families (several of which may be kin families) and having extensive interrelationships and interaction, again perhaps in the absence of physical proximity.

These and other bits of evidence point to the definite possibility of reduced, not increased, family disorganization in the next decade or so.

Religious Disorganization

The church is in a period of rapid and extensive change at this time. Sound predictions of its future organization or of its role in society are practically impossible at this time and on existing evidence.

Political Disorganization

Georgia has finally eliminated the infamous county unit system and achieved a reasonably equitable reapportionment of its state legislature. It has had two, perhaps three, administrations reasonably free of blatant corruption. Most county functionaries are now off the fee system and on stated salaries. A new constitution is in prospect, as is election reform. A viable second political party has emerged, voter registration has increased, particularly among the poor and the state's Negroes, and voting rights are increasingly being protected at the polls. Negroes are being elected and appointed to governmental positions at city, county, and state levels in increasing numbers. Most people of the state currently recognize the cost being paid for an irresponsible election of governor and are dedicated to avoiding such error in the future. County consolidation and city-county consolidation seem very much in prospect.

These and similar steps have moved Georgia toward, not away from, sounder political organization. Although there is still a long way to go, there is nothing whatsoever in the picture to indicate that the direction of change will be reversed or even materially deflected.

Hippie Type Movements

It is impossible to appraise the effects of these movements on Georgia's future or to predict what will succeed these movements or how the larger society will react to their excesses. No discussion is included here of the avowed revolutionary groups in America, since a basic assumption made herein held that no revolution would occur in America before 1985.

Unemployment

Georgia stands to suffer more from unemployment than do some other states because of its lag in education and its failure to prepare all its youngsters to compete in occupational realms, because of its displaced farm people, the uneducated and those caught in Georgia's rapidly changing occupation configuration. Georgia will probably continue for some time as an area of labor shortage. The demand will be limited for low skill, undereducated persons. This fact will call for a more than ordinary effort to train or retrain workers and to recruit and develop industries and service industries and service agencies which will efficiently utilize the sorts of people we have.

The Aging

Increasing numbers of aged persons will not necessarily represent disorganization. Longer life has always been a goal of man, and its achievement in our time should be considered as a goal not as a curse. True, the development has predominately brought us lingering deaths, but these are deaths which follow long illnesses rather than deaths which prematurely terminate active, productive lives. Delaying deaths prevents disorganization of families, careers, business, and the like. In balance, there is a net gain on the organization side.

Disease and Disability

Contagious and communicable diseases promise to decrease materially as problems for our state, with most effort having to go into disease prevention and education. The lingering death of the aged will increase in proportion, although not in the relative length of each, and there promises to be increase in (1) self-contributory illnesses (lung cancer, heart ailments, circulatory troubles, emphysema, cirrhosis, etc.) either brought on or complicated by actions of the persons themselves (drinking, improper eating, smoking, etc.), (2) those illnesses induced or complicated by environmental factors (poverty, air or water pollution, etc.), and (3) accidents. Thus, medical emphasis must change to meet changing needs, and new programs must be developed to meet the costs.

Environmental Pollution

First attempts are afoot to define and delimit pollution problems and to develop solutions. The degree of success is unpredictable.

Housing

Housing may well become in a decade and a half one of Georgia's greatest problems. Housing is so poor and short now that we have further to go than most states. Costs are nearly prohibitive. As a result, federal aid will be involved. New technology must be developed and labor union patterns must yield.

Traffic and Transportation

Solutions to these problems are not in sight, even with extensive federal aid.

Population

Consideration of any future condition must include population control (birth control, family planning). Too rapid population increase would jeopardize all other organizational efforts. Education is the means, and reasons for limiting family size must become a part of the programs of all social agencies and organizations in the state. It may even be necessary in the eighties to require a license to produce a child; the matter is that serious.

Conclusion

Man is a problem-solving animal. Georgians are now coming to define certain existing and emerging conditions as problems, and it can be expected that they will solve most of them.

Georgians are now receiving many dire predictions—prophecies that they and their institutions are rapidly headed for disorganization and decline. However, we would point to the self-defeating prophecy principle in which the very formulation of a dire prophecy causes man to marshal his rational capacities to bear upon the problem and to defeat it. This, we hold, will happen with most of the problems discussed herein or in the Bond paper.

Certainly drastic changes are taking place and one definite consequence is the displacement of work rules. However, there is no validity in the assumption that work (particularly *productive* work) is a *sine qua non* for happiness, so long as society values the person for whatever he is, and the person knows this, and concurs. The "new society" we are building may have many roles which are not work roles but which are valued and which will, therefore, provide happiness, Freud and the Bonds notwithstanding.

In another sense the termination of certain work roles need not cause permanent or extreme damage to either the person or society. An expanding society-economy such as Georgia's is characterized by the creation of *new* roles and positions into which individuals can move or be moved to the advantage of both the person and society. This is happening in Georgia and will continue to happen at least into the eighties.

Our recent changes have been typically from the rural-mechanical-productive to the urban-technical-service (production - consumption - serving). There is no theoretical basis for predicting that the latter will prove less satisfying to the individual, once the necessary attitudinal shifts have taken place, than either of the other two patterns. In fact, it promises to be *more* satisfying.

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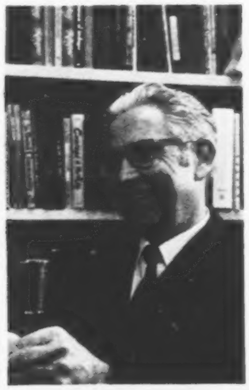

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WHY SHOULD the Commission on Educational Goals of the State Board of Education request a position paper on "Religion in Georgia"? This question may occur to many persons reviewing these documents. Among the reasons for its inclusion, the following might be mentioned: (1) organized religion constitutes a major social institution in our society; (2) there are many church-sponsored schools, colleges, and other such organizations in the state; (3) religion is deeply involved in moral and ethical values and issues; and (4) it is related to the process of socialization and the development of life styles and purposes for both individuals and groups. It would, for example, be difficult to understand Georgia's history without knowing its religious background. The same would apply to efforts to assess the current situation and the probabilities for the future.

Religion in Georgia

One of the difficulties in treating this topic is the limitation of available data about religion in the United States and, especially, on the state level. There is probably less known about organized religion and organized crime than about any other major system in our society. The Bureau of the Census asks questions about neither, but with law enforcement agencies looking into organized crime, it is not unlikely that more is known about it than about religion. Organized religion is considered a private rather than a public institution, with each denomination keeping its own records for its own purposes. Relatively few comparable statistics about the most elementary characteristics of religious bodies are available on a national level. The situation is even worse for states, since the subdivisions of most denominations do not follow state lines. Also there is no central depository or clearinghouse for such information.

What follows, then, is a review of such information about the religious situation in the United States and in the state as could be collected within the time limitations of this project, together with some speculation about the place of religion in Georgia's future.

Historical Background

Within the past two decades, the University of Georgia Press has issued two publications dealing with religion, among other topics, in the State of Georgia.(1) John C. Meadows treated religion as a part of the culture of the state in the first, and Robert H. Ayres provided a chapter on "The Role of Organized Religion" in the second publication. Each author summarized the historical background of the development of religion in the state. Although the focus of this paper is upon the present and future, a brief historical statement may be helpful.

The Roman Catholic Church first entered the area of the present State of Georgia in the sixteenth century, but it disappeared along with the Spanish occupation in the seventeenth century. The English settlement of Georgia in the eighteenth century included members of the Church of England as well as Scotch Presbyterians, French Huguenots, Swiss Calvinists, Lutherans, Moravians, Jews, and others. A considerable measure of religious freedom prevailed, and distinctions between church and state were not sharp. The Baptists and Methodists arrived later, but through the camp-meeting period of the early nineteenth century these groups, along with the Presbyterians, became the "Big Three" in the state.

The early Protestant settlers shared the anti-Catholic sentiment current in the England of that day, and there was little settlement by Catholics in Georgia until the nineteenth century. Following the Revolutionary War, the Church of England was organized as the Protestant Episcopal Church.

The Civil War was a great watershed in the history of the nation and no less so in its religious history. Indeed, the controversy over slavery split the major Protestant bodies (Baptist, Methodist, and Presbyterian) a decade or so prior to the political rupture of the nation. In the late 1700's and early 1800's, there was general condemnation of slavery by Methodists, Baptists and other church groups. However, with the increase in the economic value of slavery in the South, southern church leaders came to support it with Biblical oratory as a divine institution. The North-South debate over slavery largely replaced the doctrinal and evangelistic debates of the camp-meeting days. By the time of the Civil War, the break was complete, with southern churches sanctioning and blessing the southern cause as fully as did northern churches the northern cause.

In the postwar period, northern church leaders rode with the occupying forces in the South, while southern church leaders supported various resistance movements, including legalized segregation and vigilante organizations such as the Klu Klux Klan. The evangelistic churches emerging from the camp-meeting era (especially Baptist and Methodist) were indeed "peoples' churches" and reflected the attitudes, passions, and concerns of southern people. In the pre-Civil War period efforts at missionary work among slaves were sponsored. The slave converts were admitted to the galleries of churches for worship. They were attached to the denomination of their owners. Following the war, however, segregation set in within the denominations as well as within the society. Thus, the independent and segregated Baptist, Methodist, and other Negro denominational groups came into existence and continue today.

Two other historical developments should be mentioned. Near the end of the 1800's and the beginning of the 1900's there was a pentecostal and holiness revolt against the established "Big Three." This gave rise to such groups as the Nazarenes, Churches and Assemblies of God, Pentecostal groups, and so on. These continue as important forces, especially among disadvantaged and lower-class whites in the South. The second development has been largely the result of the increased industrialization of the South, including Georgia. This has brought an immigration of skilled labor, businessmen and others from the North and Midwest. Many of these have been Roman Catholics, Lutheran, Jews, and members of other religious groups not "native" to the recent history of the state. This immigration has provided much greater pluralism in the religious composition of the population of Georgia, especially in the cities.

Nature of Religion

In this brief historical review, religion has been treated largely as organized movements, bodies, or denominations. Yet, religion, like education, is a complicated phenomenon and can be examined from many viewpoints. Any particular approach, description, or definition of religion is likely to be counted inadequate or untrue by persons taking other stances. Generally, the social scientific approach is used here, including all the biases and prejudices pertaining to it.

Religion may be thought of as that aspect of human behavior which relates to transcendental sources of positive or negative sanctions. Thus, a central function of religion in individuals and groups is the creation, maintenance, and modification of a sacred realm (however defined) and the provision of ongoing relationships between it and the everyday, ordinary, profane or secular (again, however defined) areas of belief and behavior. The religious dimension of behavior concerns the "sacred cosmos"(2) and the access to it of individuals in the course of socialization and of groups in the process of validation and pursuit of goals. Through religion man works in the vague and often illusive area of values and traditions which become ultimate sources of validating, challenging, or judging contemporary personal and social conditions. At its best, religion provides a sacred set of values and norms through which an individual can develop a meaningful sense of direction and destiny and groups can rationalize their existence and motivate their members. The realistic grounding of religion would appear to be in the universal capacity and necessity of an individual to transcend himself in the process of socialization (to take the role of the other). Religion functions to ultimatize this empirical necessity.

Education is the major process through which socialization and internalization of culture, including values, take place. As such, it is the principal mechanism through which individuals and groups gain access to established opportunity systems in our society. Yet serious questions are being raised about educational institutions and their ability to perform this basic educational task in the modern world. In like manner, religion as the quest for meaning and destiny is a major concern of contemporary man. Yet, organized religion seems marginal and unable to perform the basic religious function amid the pluralistic perplexities and confusing complexities of modern man. In this sense, religion and education as social institutions, along with other major establishment systems, need to re-examine their goals and strategies for the decades ahead.

Religion as a Social System

As with education, the major function of religion cannot be carried on effectively by isolated individuals or small groups with limited resources. Both develop into major social systems. It may be helpful, then, to outline a few of the simple elements in a social system approach to the analysis of religion, or any other institution, such as educational or economic systems. Such elements, while not intended to be a statement of social system theory, may serve as convenient pegs on which to hang some of the descriptive material of this paper.

One of these elements may be termed values, beliefs, doctrines, attitudes, etc. This would include ways in which a particular religious system rationalizes its existence, forms its self-image and orients itself to the world around it. Normatively speaking, this would be in the field of theology and philosophy of religion. In political, educational, or economic systems, this element would be referred to as theory, ideology, beliefs, etc. Practically speaking, this is the area of goal setting and validating strategies.

Religion as a social system is composed of a wide variety of groups and organizations. These may range from local congregations, themselves subdividable into many groups, to conventions, conferences, and councils representing the denomination or religious body as a whole. Religious behavior is carried on within such groups, and they may become reference groups for behavior in other social systems, including educational groups. Comparable groups in education are well known. Such groups provide the structure of human interactions (goals, strategies, activities), and most other elements of social systems can be isolated and analyzed within this group context.

Another element of social systems, really a structural unit of groups, is the status-role position. This is a way of sorting out the personnel, assigning duties, furnishing rewards, and creating ranges of expectancy for distinctive behavior or action. In the religious system the distinction between clergy and laity would be as important as that between management and labor in industry or among teachers, administrators, students, and parents in education.

A social system is a system of social action or human behavior. One of the distinctive elements of such a system is the patterning and organization of normative or ritualistic actions or behaviors. In a sense, this component part of the system refers to the enmeshment of role performances and may be said to be to the groups what the role is to the individual participants in the system. Examples of such norms in religion would be the pattern of services of public worship; in industry, the routines of assembly-line production; and in education, the daily rounds of class activities. An important function in any system is the review and evaluation of such performances themselves.

All social systems occupy space and utilize a variety of material. Religious systems need houses of worship, budgets, furnishings, etc. The material aspect of economic institutions may be much more central since major economic groups are devoted to the production, distribution, and service of material goods. In one sense, both the means and the ends of economic organizations would revolve around materials. While theoretically not occupying this central place in religious systems, no religious organization could long survive, much less perform its essential functions, without access to reasonable resources. Likewise, there must be adequate school buildings, teachers' salaries, and various types and quantities of supporting equipment for the successful achievement of educational goals. There is a tendency in our society to measure the relative level of a social system by the quantity of resources, mainly in the form of money, made available to it.

Obviously, a religious system, or an educational system, does not exist in a social vacuum. It is intimately interwoven in the warp and woof of the fabric of society, both influencing and being influenced by all other major institutions. With no attempt to elaborate in detail the internal interrelationships between the elements of religious systems, the dynamic factors of socialization within the life histories of religious participants and the institutional changes over longer periods of time, or the external intersystemic relationships between the major social institutions, this general approach will be used in describing some aspects of the situation of religion in the United States and especially in Georgia, including its possible relationship to the future of the state.

Financial and Material Aspects

Although reliable statistics are unavailable, the material and economic holdings of religious bodies in this country make it a multibillion dollar business. In a June 18, 1968, CBS broadcast on "The Business of Religion," it was estimated that the gross revenues of the churches of the nation exceed the combined after-tax income of such economic giants as General Motors, American Telephone and Telegraph, Standard Oil, Ford, Texaco, and Sears, Roebuck. The value of taxable (but untaxed) church property was estimated at $79.5 billion, around a tenth of all taxable property in the country.

Relatively speaking, the situation would be the same in Georgia as in the nation. For example, the value of church property in the two largest Protestant denominations (Methodist and Baptist) was placed at $8.4 billion in 1968. This does not include church-related institutions, such as orphanages, colleges, homes for the aged, hospitals, and other relatively high property value holdings. In Georgia these two denominations had church property valued at nearly one half billion dollars. Although inflation and reappraisal must be taken into account, the gross increase in assessed valuations between 1955 and 1968 was 200.0 percent in Georgia contrasted to 139.3 percent in the United States. These two denominations were growing much more rapidly in the value of their church property than in the number of ministers, salary of ministers, or number of church members. Apparently the churches are doing better in the property field than in the prayer field!

In terms of salary, ministers are at the bottom of the list among the professions. According to recent census data,(3) the median salary of all experienced male professional, technical, and kindred workers was $6,619. For ministers it was $4,020. Social workers, public school teachers, dental technicians, musicians, music teachers, and all other professional people had median salaries substantially above those of clergymen. Indeed, all male workers in the civilian labor force had a median salary in 1959 of $4,621, which was above that of clergymen. The median salary of craftsmen was $5,240, of operatives, $4,299, again more than that of clergymen. It is generally the case that income figures for workers in the South are lower than those for the nation. The clergyman is no exception. In Georgia, the median salary in 1959 was $3,832, compared to $4,020 for the United States. As employers, then, the churches tend to pay below standard salaries, especially to nonclerical employees, and to follow conservative economic practices.(4) The annual value of new construction of religious buildings has been around one billion dollars for the past several years. Sixty-two religious bodies reporting through the National Council of Churches had a total expenditure of $3,612,671,698 in 1968.(5) Although these economic holdings and annual expenditures, taken together, run to substantial amounts, and many of these religious bodies engage in income-producing activities in such fields as publishing, real estate, and investments,(6) organized religion could not be said to have a decisive, direct involvement in the economic policies of the country. Religious groups tend to follow rather than fashion such policies, to reflect economic conditions rather than improve them. For example, the pastors' training and salary epitomize the poverty of the people, especially in the lower classes, both economically and religiously.

Churches, Members and Clergy

In terms of groups and organizations, there is probably no greater proliferation of different religious bodies in any society than in the United States. The Department of Research of the National Council of Churches currently reports 238 bodies with 126,445,110 total members in 321,079 churches (see Table 1). There are probably between 100 and

200 additional sects and cults not included in this census. However, the bulk of the religious membership of the nation is reported here. Indeed, 21 religious bodies with 1,000,000 or more members each claimed 114,088,501 members or 90.2 percent of the total religious membership in 1968. The proportion of the population claimed in religious membership has moved from around 3 out of 10 at the turn of the century to about 6 out of 10 today. In the 1926 *Census of Religious Bodies*, the last reasonably adequate count made by the U. S. Bureau of Census, about the same proportion of the population of the United States and of Georgia was claimed in the total religious membership.

In Table 1, the membership and number of churches may be seen for a few religious bodies for which data were available in Georgia as well as the nation in 1968. The Roman Catholics are first in membership in the United States and third in Georgia, having overtaken the Southern Presbyterians during the sixties. The Southern Baptists were second in the nation and first in Georgia. The United Methodists were third in the nation and second in Georgia. The ten bodies contained 69.1 percent of the religious membership in the United States and 59.6 percent in Georgia. Assuming the same proportion of the population in religious membership in Georgia as in the nation, there were 2.9 million members, roughly a third of them Southern Baptists. Excepting Progressive Baptists, data were not available for Negro denominations in the state.

On the basis of a fairly liberal projection of population increases in the state and nation by 1985 and assuming the same proportion in religious membership as now, Georgia would have 5.9 million population and 3.7 million members. This projection may be somewhat optimistic for both population and membership, especially the latter. From 1955 to 1965, church membership grew much more rapidly than from 1965 to 1968. The Southern Baptists in Georgia increased 2.3 percent per year compared to 1.0 percent per year from 1965 to 1968. The drop was even more marked in the nation (2.7 to 1.1 percent). The Methodists in the state grew 0.8 percent per year during the earlier and 0.4 during the later period. Again the national contrast was greater (1.1 to −0.3 percent). The Roman Catholics grew 10.5 percent per year from 1955 to 1965 but only 2.7 percent per year from 1965 to 1968. All groups shown on Table 1 experienced similar declines at the end of the sixties compared to the earlier decade in both the state and nation. If these declines continue, the proportion of the population claimed in religious membership will fall, and the actual membership by 1985, given the population as projected, will not reach the levels mentioned in Table 1.

Eight of the religious bodies listed in Table 1 reported 5,410 churches in Georgia and 127,810 in the nation. The total churches reported in the United States for 1968 was 321,079, with an average of 394 members per church. In Georgia the number of churches was estimated at 9,700, with 299 members per church on the average. Since some churches have substantial membership, more than half the churches in Georgia would have fewer than 300 members, with probably more than 3 out of 10 having fewer than 100 members. Indeed, any observer traveling over the rural areas of the state will note many small, one-room churches. Consolidation has not affected religion as it has schools, farms, and stores. Indeed, it is not unusual to find 10 to 15 struggling churches of various denominations in and around small towns of a thousand population. Such fragmentation results from excessive localism, denominational rivalry, and the lack of ecumenical cooperation.

The major distinction in roles and statuses within the church revolves around the clergy and the laity. In 1968, 360,092 clergymen were reported in the nation, with an estimated 7,000 in Georgia. Each denomination has its own criteria by which it qualifies and ordains ministers. The larger denominations require college graduation and many of them, three years of training in a school of theology. However, there are thousands of ministers with less than college graduation, many with less than high school graduation. The folk preacher, untrained, part time, and poorly paid, remains a familiar part of the Georgia religious landscape, especially in the Appalachian Mountains, declining rural territory, and the lower class inner-city areas.

Religious Organizations and Movements

The purpose here is to describe a few religious organizations or movements other than denominations which operate in the state. While the list is far from complete due to lack of information, some of the important ones are included.

The Georgia Council of Churches

The Georgia Council of Churches has been in existence since November 1952. It is composed of eleven state communions comprising over 3,000 churches. These are the African Methodist Episcopal Church, African Methodist Episcopal Zion Church, Christian Methodist Episcopal Church, Christian Churches (Disciples), Lutheran Church in America, Presbyterian Church, U.S., Protestant Episcopal Church, Roman Catholic: Archdiocese of Atlanta, United Church of Christ, United Methodist Church, and United Presbyterian Church, U.S.A.

The Council is incorporated under a state charter as an official agency created by the participating communions for doing together those tasks which they and they alone choose to do cooperatively.

The Council's constitution describes its objectives as follows.

To promote fellowship and mutual understanding among the followers of Christ constituting the several Communions

To serve as a medium of interchurch advice and counsel on matters affecting the progress of Christianity in the state

To associate the Communions in such joint activities as may achieve more effectively the objectives of the Christian religion

To seek and to express through fellowship and activities the unity of the Church in Georgia

The Council functions through three divisions of work—the Division of Christian Education, the Division of Life and Mission, and the Division of Ecumenical Relations. The Church Women United of Georgia is a General Department of the Council.

Recent major projects and activities include the following: Audio-Visual Evaluation Panel (monthly), Georgia United Christian Youth Movement, Ecumenical Encounters (youth), Georgia Committee on Children and Youth, Church World Service (overseas relief), Action Sharing Seminar for New Teachers of Weekday Church Kindergartens (monthly), Weekday Church Kindergarten Leadership School, Ecumenical Relations, Unified Program of the Churches Against Poverty, Radio and Television, Church's Ministry with Children, Day Camping Seminar, Camps and Conferences Consultation, and a Church and State Seminar.

The Christian Council of Metropolitan Atlanta

While there are many interdenominational ministerial associations in cities and counties in Georgia, only one local council of churches exists. The Christian Council of Metropolitan Atlanta is composed of 215 churches and religious organizations. In addition to three interdenominational and interfaith groups, the membership includes churches and agencies from the following groups: Methodist—70, Baptist—50, Presbyterian—41, Lutheran—15, Episcopal—

12, Christian—9, Church of God—3, Roman Catholic—3, Assemblies of God—2, Nazarene—2, Pentecostal—2, and one each from United Church of Christ, Friends, and Salvation Army.

The Christian Council has a long history of cooperative Christianity. In 1912 pastors and laymen from various denominations met, with a former Georgia governor presiding, to form a local chapter of the Man and Religion Forward Movement. In 1919 the Executive Board of this organization recommended the formation of the Christian Council of Atlanta. Over these years, some of its accomplishments have been as follows.

Cleaned up vice district of city and followed through with rehabilitation of victims

Held ecumenical services on special days and occasions

Sponsored city-wide evangelical campaigns including Chapman Alexander, Billy Sunday, Gypsy Smith, Billy Graham

Stood against commercialization of Sabbath, legalized gambling, and dog racing and suported five-day marriage law

Holds monthly meetings aiding Christian fellowship as well as Christian activity

Along with the Catholic and Jewish community, built and maintains the All-Faith Chapel at the Atlanta International Airport for use of travelers

Established following divisions within structure: Protestant Welfare and Social Services, now known as the Welfare and Social Services Division; Grady Chaplaincy Program, now Georgia Association for Pastoral Care; Radio/TV; Christian Mission and Evangelism; Christian Life and Work; Research and Planning; Budget and Finance; Christian Education; Inner City

Through these divisions holds prison services each Sunday, devotionals in local hospitals, services for travelers in motels; gives emergency aid and counseling to those in need; gives training and counseling through chaplaincy programs; coordinates radio and TV programs; gives theology courses to laymen through Lay School of Theology; works with Church World Service in clothing drives; cooperates with other community agencies in coordinating community work; coordinates work of churches in inner city; works with senior citizens programs; works with youth and sponsors Teen Broadcasting Association offering training in radio/TV work as well as Christian association with other youth of all races; undertakes such projects as distributing one million copies of scriptures—*Good News for Modern Man;* participates in production of the pageant, "Behold the Man," a drama of the Living Word involving the total community; speaks out on issues involving the community, encouraging Christian support of such issues; promotes peaceful integration of schools; works with other agencies to bring about equal opportunity in housing, employment, and education(7)

Jewish Welfare Federation

In addition to Hebrew congregations representing the Orthodox, Conservative, and Reformed Jews, the Atlanta Jewish Welfare Federation provides Atlanta's Jewry with a "central address" to deal with those problems which require total community action, whether in the area of fund raising, community relations, social services, or planning to provide such services when the needs arise.

Since its origin more than 100 years ago, the Jewish community of Atlanta has had a strong cohesive base reflected in a deep and abiding concern for the needs of its people. As these needs developed, whether in Atlanta, nationally, or in other parts of the world, various institutions were established which served their purposes and eventually required changes themselves.

The structure and functions of the Atlanta Jewish Welfare Federation include the following.

Membership—there are three kinds of membership with different roles in relation to Federation. Individual members composed of contributors to annual campaign who elect the Delegates-at-Large. Organizational members consisting of affiliated Jewish organizations with a minimum of 50 members who are represented in the Delegate Assembly. Constituent members composed of local beneficiary agencies.

Delegate Assembly—composed of delegates of affiliated organizations and delegates-at-large; serves largely as a forum body.

Board of Directors—composed of 48

members elected by the Delegate Assembly and 6 appointed by the President; elects the officers and administrators and manages the affairs of Federation.

The Federation functions through the following four Departments, with a vice-president assigned to each as well as an appointed vice-chairman: Campaigning and Budgeting, Community Relations and Internal Jewish Affairs, Social Services, Planning and Coordination.(8)

The National Conference of Christians and Jews

This is a civic and educational organization. It seeks the support of all religiously motivated people to help promote justice, amity, mutual understanding, and civic cooperation among all men. NCCJ was founded by a group of eminent Americans, including Charles Evan Hughes, Newton D. Baker, S. Parkes Cadman, Roger W. Straus, and Carlton J. H. Hayes, following the vicious anti-Catholic presidential campaign against Al Smith. They recognized an urgent need for an organization tok combat all forms of bigotry and ignorance which would turn one group of Americans against another, thereby undermining the great promise of democracy.

NCCJ's purpose is positive—to approach more closely the national ideal of "one nation, under God, indivisible, with liberty and justice for all." It is concerned with all areas of conflict based on race, socioeconomic interests, and political belief, as well as those of religious differences. It does not serve any area of vested interest, but rather the interests of all Americans of every race, creed, and national background.

The NCCJ program is educational. Solutions to difficult inter-group problems require continuing conference and confrontation, opportunities for exchange of ideas and feelings. The program method of the Conference is to stimulate and contribute to this much-needed communication across group lines.

The NCCJ program is, however, a profoundly important and basic form of action. By promoting the fundamental religious and democratic traditions of civility, it is helping citizens in a plural society to arrive at consensus through which they can act humanely and wisely in dealing with the complex problems of human relations.

Program activities include the sponsorship of Brotherhood Week, Good Neighbor of the Year, Annual Brotherhood Dinner, Speaker's Bureau, Police-Community Relations Workshops, Religious News Service, Religious News Reports for Radios, the Atlanta Brotherhood Players, Community Human Relations Workshops, Teachers in Training and Inter-Group Education, Operation Understanding, and the Swinging Bridge Coffee House; contacts with high school newspaper editors; and panel programs in churches and PTA groups on "Rearing Children of Goodwill."(9)

Southern Christian Leadership Conference

This organization was founded in 1957 in Atlanta. Black clergymen, including the late Dr. Martin Luther King, Jr., its founder, and Dr. Ralph D. Abernathy, ist present head, have been prominent in its leadership. In a real sense, SCLC has been the response of sensitive black churchmen and others to the discriminations and injustices in the South and throughout the land. In the spring of 1968 the organization reprinted from *Soul Force* the following summary of its activities.

> SCLC is known for aggressive nonviolent action, such as the Birmingham Movement of 1963, the Selma March of 1965, and this year's Poor People's Campaign in Washington.
>
> SCLC has worked closely with other human rights organizations. For example, SCLC's leaders helped organize and support the student sit-ins, and SCLC provides help to many civil rights causes.
>
> SCLC carries out quiet programs of community leadership training, economic development, and voter registration and political education.
>
> SCLC staff organizers have worked in every southern state and in numerous

northern cities. For the Poor People's Campaign, staff members are assigned in 10 big cities and five rural areas.

SCLC has about 270 local Affiliate chapters across the nation. These Affiliate chapters share SCLC's basic beliefs in human rights and nonviolent action, and many of them have their own active community programs.

SCLC is a non-profit organization supported by thousands of people from all walks of life, by churches and other local groups, by foundations, by artists and public figures who believe in our work. SCLC has always welcomed the active participation and financial aid of people from all faiths, colors and nationalities.

The Southern Christian Leadership Conference, based in Atlanta, Ga., has grown in 11 years into a national organization. At present SCLC has about 100 staff members.

SCLC policy is determined by an Executive Board of Directors, experienced men and women who follow the philosophy and practice of direct action for peaceful social change. Dr. King, Dr. Abernathy, and the Rev. Andrew Young, Executive Vice-President, carry out the board policy in SCLC programs.

The main activities of SCLC now include the following.

THE POOR PEOPLE'S CAMPAIGN FOR JOBS OR INCOME, which will begin in Washington, D.C., in April. This campaign will involve thousands of poor people in massive protests, expanding in numbers and militance if necessary to make the nation respond to the evils of poverty and racism in America.

VOTER REGISTRATION AND POLITICAL EDUCATION, to develop political power so that poor people, including the oppressed black people, will be represented by their own leaders and will reform the systems that exploit them.

OPERATION BREADBASKET, SCLC's economic development program which began in the South five years ago and is now organized in a number of big cities. Breadbasket not only produced new and better jobs for Negroes but also works for total economic control and development within the black community. SCLC Breadbasket is now growing into a nationwide network of economic power.

THE CITIZENSHIP EDUCATION PROGRAM, which trains local adults in community leadership, education, human rights and citizenship responsibilities, economic development, and Negro heritage. Since it became an SCLC program in 1962, CEP has trained more than 2,700 southern adults who went on to reach 25,000 others in local citizenship schools.

URBAN LEADERSHIP TRAINING. This year SCLC has a new program for developing community leadership in the ghettos of 15 of the largest cities. Ten ministers from each of the cities have been recruited for development of their leadership qualities and preparing active programs to better the lives and conditions of the poor people in their neighborhoods.

AFFILIATE ACTIVITIES. The 270 local Affiliates of SCLC not only support this organization but also work on their own community projects, such as citizenship schools, voter registration, improvement of education, Operation Breadbasket, and direct action against racial injustice.

NONVIOLENT EDUCATION AND ACTION. SCLC staff and Affiliates continue to teach both the philosophy of nonviolence and the power of direct nonviolent action for human rights.

Young Men's Christian Association

The following statement of its history and current program emphases was supplied by the statewide YMCA of Georgia.

The first YMCA work was started in Savannah in January 1855, followed in Macon in March of the same year. Work began in Columbus in November of 1856, followed by Athens in March of 1857, Augusta in January of 1858, and Atlanta Central in May of that year. The state association began in 1888. Moultrie was the last to organize an association, in March 1916.

YMCAs in Georgia began working with high school boys in the early 1900s through the character-building program of Hi-Y (an abbreviation for "High School YMCA"). Similar work for girls was pioneered in the United States in Douglas, Ga. in 1930 by Mr. J. L. Fortney, then superintendent of schools. YMCA work with university students is currently being carried on at Georgia Institute of Technology and was provided for the students at the University of Georgia for a number of years.

Because local YMCAs are autonomous associations, the nature of their work has varied from city to city. Associations in the larger population centers have provided dormitory service to their constituents, although the trend is moving away from this to community-type buildings stressing activities for the entire family. Most newly organized YMCAs call themselves "family-type" associations. To show the diversification, Waycross has for many years maintained a special operation exclusively for railroad men, having only recently added a new building and program to serve the entire community.

YMCAs currently in operation are in Albany, Athens, Atlanta, Augusta, Columbus, Marietta, Moultrie, Rome, Savannah, Thomasville, and Waycross, and the State YMCA of Georgia. These local associations serve people in fourteen counties. YMCA work in the other 145 counties is the responsibility of the State Association. Because of the large territory to be served by the State Association it has specialized since its reorganization from the State Council of YMCAs in 1946 in working with high school students (Hi-Y clubs for boys and Tri-Hi-Y clubs for girls). This character-building program for high school students in Georgia is the largest YMCA program of its kind in any state in the union.

In the case of local associations, many of the "Y" clubs meet in their buildings while others meet directly in the schools of which they are a part. In the case of the state association, nearly all of the clubs meet in the public schools—some meet during school time, others after school or in the evening.

Religious activities vary greatly among local YMCAs. Most do not conduct the type of religious services which characterized their early beginnings. Much of their energy is consumed in providing special services of members in connection with their health clubs, family swims, jogging groups, suitable housing accommodations, etc. However, many have special emphasis programs dealing with religious events and some have chapels built into their new buildings. It is reasonably accurate to say that with the exception of personal work done by individual YMCA staff members and board and committeemen and the observance of special "religious" activities, the majority of what we would call "religious work" is carried out by YMCAs through their character-building programs in their youth club groups. Most local YMCAs have Gra-Y (boys) and Tri-Gra-Y (girls) clubs operating for elementary school age groups. Many also have "Father-and-Son Indian Guide" groups to stress the basic need for a close working relationship between a father and his boy.

The high school "Y" clubs (Hi-Y for boys and Tri-Hi-Y for girls and a Co-ed for both) remain the largest area of effort for the "Christian Emphasis" program of the YMCAs. The "Y" club purpose is "Clean Speech, Clean Scholarship and Clean Living."

Really an examination of the meaning of the purpose and platform of high school "Y" clubs reveals that their aim is the "practical application" in the everyday school life of the high school student the "working principles" of the Christian Ethic. State and district conferences for this age group stress the importance of Christian guidelines in judging behavior and in choosing values. A youth and government program dealing with good citizenship is conducted annually at the state capitol for this age group and a Good Sportsmanship Clinic is held annually for high school cheerleaders. Local clubs are built around the concept of Christian service to others.

Young Women's Christian Association

In Georgia the YWCA was organized in Atlanta in 1902, in Augusta in 1909, in Cobb County and in Macon in 1918, and in Brunswick in 1919. The YWCA is a Christian movement both by inheritance and present concern. It affiliates with no particular religious group and includes among its members those from many Christian backgrounds, those of other faiths, and some who profess no religious faith. It has been enriched by diversity, making possible dialogue on the difficult questions of life's meaning posed by the twentieth century. YWCA leaders are in positions to be the creators of a climate for ecumenical understanding and initiators for cooperation between religious bodies and organizations.

In 1967 the YWCA adopted a position statement nationally entitled "The YWCA—A Christian Movement Open to the World." This involved "The openness to the resources of the Christian faith; new depth of relationships among individuals; a supporting climate for youth; concern for each person's chance for fulfillment; involvement in other lives; and responsible action for human dignity and freedom within the Association and wherever life touches us."

Program priorities include new dimensions of the Christian movement, education, work and leisure, racial integration, social isolation, sex values, health, world responsibility, and political responsibility.

In the field of international peace and goodwill there were program activities in the areas of supporting United Nations efforts for peace, improving standards of living, human rights, free flow of people and ideas, and protecting constitutional powers. In the area of economic and social justice there were emphases on optimum function of the economy, social security and public welfare, and other public benefits, such as federal aid to public education, job training, liberalization of abortion laws, and adequate child care services. In the area of a better environment there were program activities in community planning, restoration and maintenance of purity of air and water resources, development and conservation of man-made and natural resources. In the field of basic individual rights and liberties there were activities in the interest of basic constitutional guarantees, the right to vote, equality of treatment and social justice.

A brief statement of the development of the YWCA in Atlanta will indicate some of the changing emphases in its work.

> The Atlanta YWCA received its charter from the State of Georgia on March 2, 1902. By 1905 Atlanta citizens had organized the YWCA to put their Christian faith into action in meeting the pressing needs of the girls and women in this city.
>
> In its first years the Atlanta YW developed services around the need for social life, skill classes, gospel meetings, a library, a boarding home, and an employment bureau. Then the program extended to work with industrial girls in two mills. By 1915 the younger girls were also included when the first High School Girls' Club was organized.
>
> In 1919 the Blue Triangle Branch at 128 Piedmont Avenue, N.E. was formed to minister to the needs of the Negro youth.
>
> May 1922 saw the YWCA become a charter member of the Community Chest. The same year, land was purchased and Camp Highland was made available to school and working girls. Also in 1922 the YW's employment program became a separate agency, moving into the Chamber of Commerce Bureau.
>
> With the depression years came a reorientation of services to meet the trying period of unemployment and lack of recreational resources. The YW organized groups to help keep the city's playgrounds open. Residence rates were reduced and programs took on new characteristics. A Day School for unemployed was organized.
>
> The buildings began to show wear by the 1940s. The residence on Baker Street was sold and a room registry service was started to take its place. Program was decentralized into Summer Hill, the Northeast, and the Northwest. The YWCA Charter was renewed for 35 years by the State of Georgia in 1945.
>
> The 50s brought new buildings with a central building at 72 Edgewood Avenue, N.E. and Phyllis Wheatley Branch at 599 Tatnall Street, S.W. Dormitories were discontinued but the room registry service was continued.
>
> Work with underprivileged girls was turned over to the Girls' Club, then in its beginning days. A new Mobile Service program developed through the guidance of the Atlanta Community Service Planning Board. Camp Ida Prather was purchased and developed for Negro girls.
>
> During the latter half of the 1950s and the first of the 1960s, the influx into Atlanta of many people from foreign lands caused the YW to organize an "International Club." Its growth and development inspired the subsequent formation of the independent International Student Bureau.
>
> In the years following the 1954 Supreme Court ruling, the YWCA continued to pioneer in interracial and intercultural relations. Its cafeteria was the first food establishment in Atlanta to desegregate.
>
> The YW opened its doors to meetings of the grass roots organization, "Help Our Public Education," with whom it cooperated in other ways in the struggle to keep the schools of Georgia open, being a charter member of "Organizations Assisting Schools in September."
>
> With the 1960s many changes have come to Atlanta. After experimentation with a Mobile Unit program, the YWCA decided to concentrate in the DeKalb area through a YWCA Center,

> continuing a decentralized program in Capitol View, Carol Heights, Thomasville, Kirkwood, and the heart of the city.
>
> In 1965 the YW began to work with the new poverty program (EOA) through the Neighborhood Youth Corps. This work expanded into job exploration and training programs including work with the young women coming to Atlanta following their Job Training Corps. A pilot project with the Labor Department reached over 50 girls and assisted half of these to qualify for jobs.
>
> A grant from the Sears Foundation in December of 1967, helped the YW to develop a "Model Homes" project in the Capitol Homes area. This project has led to the extension of a similar program for Model Cities. An orientation program for young adults coming to Atlanta was initiated in 1968 with the distribution of a booklet, "Where It's At in Atlanta." The Atlanta Foundation made this first stage of the project possible.
>
> During 1968 the YWCA program continued to expand into neighborhoods, and the Tri-City program reached the level of expansion to request a center of operation. The Board of Directors recommended that a permanent site for the DeKalb Center be found, a new campsite be developed and Camp Highland be sold. The Board also requested a Capital Fund Drive for January-March of 1971 with greater emphasis away from the center of the city and into individual neighborhoods.

The Salvation Army

This organization operates in 35 towns and cities of Georgia through 70 commissioned officers and 175 employees. The total membership of the state organization is 2,632. The activities include work with transients (temporary room and board), emergency welfare (rent, food, clothing, transportation, etc.), Christmas programs (served over 70,000 people in 1968), missing persons, visits in jails and prisons, disaster services, activities for inductees in Armed Services, employment services, and home and hospital services for unmarried expectant mothers. One of four training schools for officers in the United States is located in Georgia. Special activities for men, women and youth stress character building, music, golden-age groups, rehabilitation, and summer camps.

Church-Related Institutions

The denominations in Georgia, as in the nation, support a variety of schools, colleges, hospitals, orphanages, homes for the aged, and so on. There is no central clearinghouse for information about these church-related institutions. Therefore, these data are incomplete and illustrative only.

There are 33 private colleges in Georgia, and all except six of them are church-related. In addition, several denominations support campus ministries on campuses of both church-related and state colleges and universities. There are 239 nursing and personal care homes with only a small number of them related to churches. There are 210 hospitals and several can be identified as church-related. Most of the 40 orphanages and homes in the state are church-related.

In 1968 the institutions related to the Southern Baptists of the state included the following: Georgia Baptist Hospital, Mercer University, Shorter College, Tift College, Brewton-Parker College, Norman College, Truett-McConnell College, Peachtree on Peachtree Inn and Baptist Village (homes for the aged), and Georgia Baptist Children's Homes.

The Methodists are related to several institutions, including the following: Wesley Woods (home for the aged), Wesley Woods Health Center, Magnolia Manor and Nursing Home, Emory University Hospital, Candler General Hospital, two Methodist Children's Homes, Southeastern Methodist Agency for the Retarded, Andrew College, Oxford College, Emory University, Young Harris, Reinhardt, LaGrange and Wesleyan colleges.

The Roman Catholics in Georgia (third largest religious body) support 38 elementary schools, ten high schools, seven hospitals, three nursing schools, one home for the aged, and two orphanages.

The Presbyterians are related to Agnes Scott College, Columbia Seminary, Rabun Gap-Nacoochee School, Calvin Court and The Presbyterian Home, Incorporated (for the aged), along with other institutions in Georgia and nearby states.

Other denominations support similar institutions, including Canterbury Court, Appleton Church Home for Girls, Jude Half-Way House, Julia Parkman Jones Benevolent Home (Episcopal), and Southern Christian Home (Disciples).

Religion and Cultural Values

Perhaps a major interest of the Commission lies at the ideological and value orientation level of education, religion, and other institutions. Much of the spade work has been done on the general theme of southern traditions and their relation to economic growth by William H. Nicholls.(10) What will be attempted here is to set religion in the total complex of cultural values and traditions known as "the southern way of life," a task not undertaken by Professor Nicholls.

By way of background, it is a fairly common historical generalization that the modern world, i.e., of the past three or four hundred years, resulted from the convergence of Protestantism as a religious system, democracy as a political system, science and technology as a system of research and development, public education as a means of socialization, and capitalism as a system of economics. These major value and organizational themes emerged from the womb of medievalism unevenly and in somewhat different birth orders. Yet, the kinship between them and the mutual reinforcement has provided much of the dynamic and core value orientation of the modern western world. This has become something of a modern western world synthesis replacing the medieval synthesis.

A classic study of the relationship between religion and economic life in modern culture is that of Max Weber.(11) Centrally, it was his thesis that the emergence of Protestantism provided the ethos within which capitalism was endowed with divine suport as a way of life. This occurred, according to Weber, with the throwing off of the traditional religious orientations of medieval Catholicism through the radical Protestant doctrines of predestination, salvation, and calling. This Puritan ethic was developed with varying doctrinal emphases by Calvin and the Presbyterians, the Baptists, and Wesley and his Methodists. As seen above, these have been the "Big Three" denominations in the history of Georgia.

It was not Weber's contention that any of these men or movements set out with the manifest purpose to develop the foundations for an economic system or even a rationalizing principle undergirding it. They were devoted to the reformation of the central religious tasks: the worship of God and the salvation of souls. Nevertheless, these protesting religious movements, along with associated and, often, conflicting forces, did rob medieval man of his spiritual security within the Catholic Church and of his traditional modes of economic and political behavior. Early Protestants had to work out the assurance of their salvation in the world around them. The discipline and rationalism of the monastery as a holy calling were, in effect, thrust into the open community and into the economic and political spheres. The making of money, the expansion of capitalistic enterprises, and the eruption of the Industrial Revolution, as well, parenthetically, as the expansion of knowledge and the spread of democracy, became principal fields in which men worked out their spiritual destinies. These constituted breaks, often radical and revolutionary, with medieval traditionalism.

The United States has probably been the major critical testing ground of this modern societal development. In the early days it was predominantly settled by Protestant colonizers. They came, seeking religious freedom and economic opportunity. Those who settled in the northern part of the country seemed to stress religious freedom most and to develop economically fastest. Those settling in the South seemed primarily concerned with economic exploitation and less with the Protestant ethic. With the rise of the industrial economy of the North, the Puritans became captains of industry, and the call for workers brought thousands and millions of Catholics from agrarian Europe to industrial America. Thus, by the end of the First World War the Protestants, whose ethic was historically associated with the Industrial Revolution in Europe, found themselves dominant in the agrarian traditionalism of the plantation South; whereas the Catholics, associated with peasant agriculture in Europe, pushed toward the top in the industrial cities of the North.

Historically, the so-called "southern way of life" roots its past in the plantation system, in a segregated bi-racial pattern, in states rights, and in fundamentalistic Protestantism, with its focus on narrow pietism, personalistic ethics, emotional revivalism, non-involvement in social issues, and other-worldly salvation.(12) This culture-bound southern synthesis has been as much sanctioned and endowed with divinity by Protestantism as ever was the feudal medieval synthesis by Catholicism. Today the movement of the sectional South, including Georgia, into the mainstream of American life, ideologically, educationally, and economically, is hampered by the inability of large segments of the southern brand of Protestantism to disassociate themselves from this traditional southern synthesis. Perhaps this struggle for the future will be nowhere greater than in the rural parts of southern states.

Just as the monolithic might of medieval Catholicism over the values, motivations, and practices of men had to be broken before the developments of the modern world complex of capitalism, democracy, education, and science were possible, so the dominance of traditionalistic Protestantism must loosen its hold on the mind of the South before the region can enter fully into the mainstream of American economic and political life. The Civil War was perhaps more decisive in splintering the southern synthesis than was the French Revolution for the medieval synthesis. Doubtless, sect-type, revivalistic, and individualistic Protestantism has been the tough inner core of the former as Catholicism was of the latter. Although breaking, the southern synthesis is by no means broken.

The splintering of this traditional value synthesis has been aided by such forces as the out-migration of southern Protestants, both Negro and white, into the industrial urban centers of the North and West; the in-migration of management and industrial workers with Catholic, Lutheran, and other religious backgrounds; the leadership of the Negro Protestant churches of the South in the Civil Rights movement; the integration of Catholic parishes; the mergers of southern religious groups with national bodies; the beginnings of ecumenical work; and the increase in the Jewish population of the urban South. These processes, along with political and industrial forces, are breaking the hold of traditional Protestantism on the mind of the South. The South is becoming more pluralistic in religion as well as moving toward national cultural norms in other respects.

In a traditional society, the mutual support between religion and other established systems may be desirable and rewarding. It may make for a unified, consistent, and meaningful existence. However, in periods of rapid social change with serious questions about older values and with considerable personal and social disorganization, church leaders can hardly afford to identify their faith with the worse features of the traditional past and *status quo*. Yet this tends to be the normative stance of the majority of churches in the state today. State and local leaders who appeal to the traditional "southern way of life" and who want to keep things the way they are, or even worse than they were, can generally appeal to and secure the support of the dominant religious forces in Georgia. This means, also, that those leaders who are making efforts to move the state socially, economically, and politically into the mainstream of national and world life are likely to be attacked rather than supported by these same religious forces. Encased in such traditional values, critical and prophetic voices are seldom heard in the state, or at least they are drowned out by the central clamor of culture-bound, backward-looking, Bible-quoting oratory.

Religion and Social Changes and Conditions

The major social systems (family, government, education, recreation, religion, economics, etc.) seem designed to meet basic human needs and aspirations. These are establishment systems of normative, approved and sanctioned ways of dealing with human drives and desires. They express the conventional wisdom and customary practices of a society. They are the expected, orderly, and moral ways of acting, thinking, and feeling. Ideally, they are oportunity systems for the development of persons. On the back side of such establishments are patterns of deviation and disestablishment.

In a traditional society the normative are usually so much in the majority that reasonable moral order in establishment systems is maintained. But these moral and approved patterns may, in any given society at any given period of time, sanction to the point of endowment with divinity, enormous inequalities and injustices.

In periods of rapid and revolutionary changes, the established structures themselves are challenged. The challenge is likely to come most sharply from those whose needs are least met by them. Some of this may be the failure to provide elementary needs (as in the challenge of the poor), identity needs (as in the challenge of the blacks) or meaning needs (as in the challenge of the young). In such a time, like the present, the very formulations of the social order (and disorder) are undergoing critical and judgmental review. The reciprocal impact of some of these rapid social changes on religion and society in Georgia may be mentioned.

The increasing urbanization of the population of Georgia has had its impact upon churches. In the early days of its settlement, especially during the last century, churches were organized in many villages and crossroads communities. There were even more one-room churches than one-room schools. Due to changing agricultural patterns and the outward migration of the population, many of these small rural churches have been closed and others are weak and struggling. The basic rural mentality of the denominations, however, has lingered. The result has been that many churches have found difficulty in accommodating themselves to urban and metropolitan life. As a general proposition, the larger the city the smaller the proportion of its population in religious membership. Thus, the weaknesses of a surplus of small struggling churches in declining rural areas is not compensated for by comparable growths in the urbanizing sections of the state. In addition, the undertrained, underpaid, and part-time clergy in rural churches fails to provide the leadership badly needed in adjustments required in declining and depleted areas. In much the same way, the rural mentality of church leaders in the cities makes it difficult for them to provide leadership in regard to the complicated issues of city life. Efforts at inner-city or ghetto ministries in Atlanta, Savannah, and other cities of the state lag behind such activities in other large cities of the nation. Yet beginnings have been made by churches and schools.

Largely as a result of urbanization and industrialization, pluralism and secularism have increased in the state. The older rural culture, despite its regional divisions, espoused a common value system which tied the state together. This has now been overlaid by tourism, unionization, industrialization, immigration from many sections of the nation, increases in "non-native" denominations, and general secularization. Atlanta, as the centerpiece of this new pluralism, is a cosmopolitan center open to the same influences as any great metropolitan area.

A pluralistic society is characterized by multiple values and structures. There is also the pluralism of gods, that is, many sacred activities or "ultimate" sources of judgment or evaluation, of vindication and of repudiation. Stir into pluralism a mixture of rapidly changing beliefs and behaviors and the results are chaotic conditions and contradictions in the traffic between the sacred and secular. This leads to maximum loss of meaning, anomie, normlessness and purposelessness for persons and structures. Since man abhors vacuous meanings as much as nature abhors a vacuum, he must spin out some web or tangled skein of plausible beliefs and behaviors, however brazen or bizarre. Note the revival of occult practices, like astrology, especially among the young.(13)

In any case, "diminished man"(14) (as persons and structures) seems to live today in very small boxes, walled in by nowness and immediacy (with only stained and distorted windows, if any at all, opening to past and future) and with limited space between floor and ceiling (little depth of meaning and less openness to transcendental sacred values). Because there seems to be "no exit" from these confining cultural boxes, persons turn to drugs, drink, riots, occultism, sex, and aberrations of a thousand sorts. Various mental, emotional and other difficulties often result.

It has traditionally been the central function of educational processes to provide opportunities through which the young could be socialized in the ways of the old. Historically the major instrumentalities of such socialization have been the home, the neighborhood, the church, and preeminently the school. To these must be added radio, television, and other technologized means of communicating the culture. In periods of rapid social change the differences between the generations become greater. Today the communications gap between young people and their elders is very great indeed. This not only has implications for education but serious consequences for churches as well. Churches are supposed to minister to persons of all ages, and they could be instruments of healing and bridging the generation gap. Because churches are essentially voluntary organizations, however, young people tend to become church dropouts earlier and in larger numbers than school dropouts. While features of the youth culture are quite positive and hopeful for the future, others are negative and dismaying. Among the latter are the tendencies of young people to turn to petty crime, drugs, alcoholism, sexual promiscuity, and other deviant patterns in their efforts to develop personal and group identity. Yet this television generation of youth, on the positive side, would seem to be developing sensitivities to cultural values which may have been overlooked by older people. There is a questing, an openness, an honesty which surprises and shocks the older generation. Indeed, the brightest of the young people are raising serious questions about the establishment systems of our society and the cultural values of their elders. Since churches in their minds are identified with traditional establishment systems and with older morality patterns, they too come under serious question, and young people in the high school age tend to write them off as not being really with it in the youth culture. Thus the tradition of the church and school working closely together in the socialization of the young is seriously challenged today in view of the pluralism of religions, the impact of the separation of church and state and, perhaps most important of all, the tendency of young people to drop out of both church and school. The churches seem to be more a part of the problem than of the solution here. In this case, they leave a greater burden upon the schools to cope with youth culture in the preparation of future citizens and, hopefully, future church members.

Churches and schools are being challenged by rapid changes in racial relationships in the state, nation, and world. There are relatively few foreign-born whites in Georgia, but around one-fifth of the population is black, twice the national average. In 1960, the proportion of the total population which was Negro ranged from less than one-tenth of one percent in three north Georgia counties (Dawson, Forsyth, Towns) to over two-thirds in three middle Georgia counties (Burke, Hancock, Talbot). The migration of Negroes has been excessive from rural areas into the cities within and without the state. Thus, the issue of race is becoming nationwide. The major denominations of the nation and in the South have been deeply involved. Generally, in the South, they have sanctioned, by silence and speech, segregation, racism, and discrimination because of color. Some of the resistance groups (Klu Klux Klan, White Citizens' Council and others) have been led by persons with strong church connections, some of them clergymen. Ministers, here and there, have spoken out against racial discrimination and have lost their pulpits.(15) Actions of black clergymen in Atlanta in desegregating buses and the manifesto by white clergymen in 1958 were other exceptions. The manifesto made the following points.

> Freedom of speech must at all costs be preserved.
> As Americans and as religious leaders, we have an obligation to obey the law.
> The Public School System must not be destroyed.
> Hatred and scorn for those of another race, or for those who hold a position different from our own, can never be justified.
> Communication between responsible leaders of the races must be maintained.
> Our difficulties cannot be solved in our own strength or in human wisdom but only through prayer and in obedience to the will of God.(16)

Since the days of reconstruction, one of the prominent economic characteristics of the South in general has been poverty. In spite of considerable improvements, the greatest poverty areas in the nation remain in the South. Rapid improvements in the overall economic picture and political promises to eliminate the worst features of poverty make the conditions of the poor even more difficult.

The standard brand Protestant denominations in the nation and the South have tended to confine their ministry to the middle class and to ignore the issues of poverty. Indeed, the poverty population is likely to belong to sect-type religious organizations, if any at all. These groups tend to sanctify current poverty with hopes for "pie in the sky," not to be involved in programs to provide bread here on earth. Thus, the religious forces of the state have been little involved in efforts to redress the conditions of poverty. There have been few demands for structural changes in food stamp, surplus commodity, welfare or other programs designed to make available to the poor at least the basic necessities of life. The result has been continued poverty and malnutrition for thousands of families, especially in the mountain area, the Black Belt counties, and the ghettos of cities. These lower-class poverty families tend to have larger than average numbers of children. They have unequal access to facilities for education. Handicapped by limited family situations, they frequently attend schools which are ill-prepared to provide an adequate education, much less make up the disadvantage at the starting line. Although the majority of poverty families in the state are white, the fact that a much higher proportion of black families is in poverty increases the educational deprivation. If religious leaders of the state and counties were really concerned about the welfare of poverty families (white and black), pressures could be brought upon political, economic, and educational forces to develop plans and programs to break, or at least bend, the cycle of poverty with its enormous cost generation after generation. Instead, there tend to be poverty religious organizations ministering to poverty people and making up an important part of the problem.

In a book-length survey of southern rural poverty, Paul Good reviews many situations of poverty throughout the South, including Georgia. He raises unanswered but fundamental questions regarding the national willingness to face the problem of poverty: "How to inspire national and regional motivation to make resources available, how to deal with the apparent fact that a majority of Americans feel that a surfeit of material things for most is compatible with deprivation for many, how to separate myth about poverty from the truth about private and governmental forces fostering it."(17)

Church leaders, whose religious faith is supposed to be good news to the poor, in both the nation and the state of Georgia, seem to accept little responsibility for helping to mobilize the conscience of leaders to deal with these problems of poverty. Instead they tend to sanction and support political and economic structures which cause and allow to continue tragic conditions of poverty, misery, and hunger. Perhaps as important as the economic aspect of poverty are the personal and organizational underdevelopment, powerlessness, alienation, discrimination, nonidentity and lack of imagination and effective motivation. These are issues of human spirit as well as helping structures to which both church and school should respond in the years ahead.

Religion and the Future of Georgia

During the next decade or so Georgia, along with several other southern states, will continue the struggle between pointing with pride to its past and planning for the potential and possibilities in its future. Barring major setbacks, the state should continue movement toward the mainstream of American life in a full range of social and cultural developments. To achieve this, it will have to move faster than a rapidly moving nation in economic growth, educational achievements, democratic political processes, urbanization, and the humanization of major establishment systems. This will involve more secularization and pluralism of values, a breaking away from the worst features of the "southern way of life" and, also, the "American way of life" toward a more inclusive world view in our modern "global village." The stresses and strains emerging from rapid social changes are likely to increase rather than moderate or decrease. All establishment systems, including religion and education, will confront increasing challenges to modify their goals and strategies so as to become opportunities rather than obstacles to human development.

For religious bodies, current trends may be expected to continue during the next 10 or 15 years. A few of these may be mentioned.

Liturgical churches (Catholics, Lutherans, Episcopalians), on the one hand, and sect-type bodies (Assemblies and Churches of God, Pentecostal and Holiness groups), on the other, may be expected to continue somewhat more rapid growth than the original "Big Three" (Baptists, Methodists, and Presbyterians). This would result in greater pluralism in religious beliefs and practices.

Most religious bodies will experience cutbacks in membership growth, if not budgets, unless the declines for the second half of the sixties are reversed.

Other national evidence would seem to support this trend.

> From 1957 to 1969, this question has been asked in Gallup Polls of a national sample of adult population of the nation: "At the present time, do you think religion as a whole is increasing its influence on American life, or losing its influence?"
>
> The situation over this period has been almost reversed. In 1957, 69% thought the influence was increasing with a dramatic drop to 14% in 1969. In 1957, 14% felt religion was losing its influence and this increased to 70% by 1969. More younger people than older ones and more Protestants than Catholics thought the church was losing influence. Reasons given were: young people are losing interest in formal religion; growing crime, immorality and violence; materialistic distractions; the church is not playing its proper role. Those who blamed the church for not playing its proper role were about equally divided between those who thought the church was not keeping up with the times and those who thought it was too involved in social and political issues.
>
> If these trends were projected on a straight line basis no one would have a good word to say for the church by the mid-seventies! While this is unlikely, serious questions should be raised about the implications of these data for the decade ahead. It may be wondered whether these data constitute a "bad check" which will be cashed in the seventies.(18)

Churches in the state will experience increasing difficulties in maintaining small churches in declining open country and village areas. Churches will be closed, consolidated or reduced in leadership and services. Yet many struggling, subsistence and substandard units will survive, since there is nothing in view for churches comparable to the consolidation of the public schools.

Segregation of the races will continue much longer in the churches than in schools. However, during the coming decade there should be increasing, if scattered, examples of churches with inclusive memberships in cities and counties.

Denominational rivalry and separation will remain strong during the foreseeable future. The ecumenical spirit and church cooperation are much lower in Georgia and the South than in other parts of the nation. Yet, these should experience some further development, especially in the cities, in the years ahead.

Unfortunately, the worst features of the southern brand of Protestantism will continue to sanction the worst elements of the "southern way of life" for years to come. Backward-looking politicians and other public leaders can continue to find Bible-quoting clergy and laity to support their most reactionary and dehumanizing proposals. This will, however, become less true in cities and among more spiritually sensitive and alert religious leaders throughout the state. This will result largely from improvements in education and movements toward liberal, ecumenical religion.

The trends toward urbanization, industrialization, secularization will continue to produce rapid social changes and increased cultural meaninglessness, anomie and normlessness, and loss of identity. The crisis of values, meaning and personhood will cause increasingly serious concern among leaders in religion, education, economics, and government alike. The basic function of religion, apart from its organized forms, will become more fully recognized in efforts to humanize establishment systems, including organized religion, and to provide guiding sources of sanction and validation for emerging value orientations for the future. For this to be achieved, or even worked at with any sense of integrity, vast changes will be required in our views and understandings of traditional wisdom and customary practices in churches and schools, as well as in other establishments. Also, it will call for radical revision of goals for the future and strategies (including use of resources and energies) to work toward them.

Such needs and concerns will cause forward-looking Georgia leaders in education and religion to plan and work together more closely in the future than in the past. The involvement of religion in educational and related activities will doubtless increase in quality, if not quantity, and will involve new patterns of relationships, such as greater cooperation in campus ministries, patterns of released time or cooperative use of time, and the growth of studies in religion and in ethical and moral values. The nationwide increase in programs of study in religion in state universities is an illustration of such developments.

Unless more radical changes and breakthroughs than now contemplated occur, establishment systems are not likely to free themselves from past and present entanglements and inadequacies in order to alter their courses to meet new and more complex and changing needs and aspirations. Whether religion can bestir itself to become such a change-agent, or whether this role can be taken better by education, some other system, or by several working together, is unclear. Such breakthroughs may, unfortunately, await the pressures, increasingly violent and revolutionary, of various disestablished and powerless groups of the state, nation, and world. If so, the default through inaction or ineptitude of current leadership in establishment systems (especially in religion, education, government, and business) to meet with imagination and integrity, with purposeful and practical plans, the options and opportunities ahead would portend a future fearful to envision. It is in such critical moments of crisis that religion can deny its prophetic voice and hide its head in the shifting sands of society, or it can challenge people with new vision and hope. It is hoped that the latter option for Georgia's future is taken by its leaders in religion, education, and other policy and power making groups.

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TABLE 1. MEMBERSHIP AND NUMBER OF CHURCHES OF SELECTED RELIGIOUS BODIES AND POPULATION, GEORGIA AND THE UNITED STATES, 1968, WITH PROJECTIONS FOR 1985

Religious Bodies, Population	Membership		Churches	
	Georgia	United States	Georgia	United States
Projected total 1985(1)	3,767,000	166,610,000	12,600	423,000
Total 1968	2,900,000(2)	126,445,110	9,700(2)	321,079
Southern Baptist	995,670	11,140,486	3,011	34,123
United Methodist	392,880	11,026,976(3)	1,735	41,993
Roman Catholic	84,032	47,468,333	71	23,814
Presbyterian, U.S.	75,188	960,776	313	3,987
Progressive Baptist	60,000(4)	521,692	NA	655
Episcopal	53,128	3,420,297	139	7,180
Jewish	26,720	5,725,000	NA	4,700
Disciples of Christ	24,271	1,875,400	136	7,965
Lutheran Church in America	11,587	3,157,543	45	5,868
United Church of Christ	3,867	2,052,857	31	6,908
Others(5)	1,172,657	39,095,750	4,219	183,886
Projected population 1985(6)	5,961,000	263,624,000		
Estimated population 1968	4,588,000	199,861,000		

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(1) Projected on assumption of a continuation of the 1968 proportion of the population in religious membership.

(2) Estimated on assumption of the same proportion of the population in religious membership in Georgia as in the United States.

(3) Includes the Evangelical United Brethren.

(4) Estimated by the president of the Progressive Baptists in Georgia.

(5) The totals for all other denominations than those mentioned above.

(6) Using assumptions of Series IB of *Current Population Reports*.

Sources: United States data from *Yearbook of American Churches*, 1969, National Council of Churches; Georgia data from yearbooks of the various denominations; population from *Current Population Reports*, Series 25, Nos. 388 and 403.

critique:

Religion in Georgia

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ALTHOUGH Professor Brewer has provided much interesting and informative material about the state of religion in Georgia, a paper prepared for the Commission on Educational Goals should perhaps have given more attention to the current and prospective place of religion in public education. He predicts in his conclusion that religious involvement in educational activities will undoubtedly increase and will involve new patterns of relationships, but little is done to describe the present relationships or future possibilities.

Professor Brewer is primarily concerned with religion as one of several interacting social institutions, and within the limitations of his method he has done an admirable job of discussing many culturally important aspects of religion. While not challenging his presentation as untrue, one could question, as he himself recognizes, whether religion can be adequately treated only in sociological terms. A case could be made that other aspects of religion reflected in its art, history, literature, music, psychology, philosophy, and theology also need to be considered in any complete survey. A many-sided approach using insights of all these disciplines obviously cannot be attempted here. A study which tries to do justice to all the rich variety of religious phenomena could have far-reaching impact on the state's educational system by showing how these aspects of religion are inescapably involved in education.

The basic definition of the nature and function of religion given in Brewer's paper also can be questioned. Although he recognizes that many answers are possible, Professor Brewer contends that the basic function of religion is "to create, modify, and maintain a realm of the sacred," almost as if man himself were the originator and sustainer of the divine being and its ethical imperatives. Since other understandings of religion are admittedly possible, it would seem that these views and their implications for education should be given due consideration as well. For example, if religion is understood primarily as man's response in faith to God's activity in the world, one would need to be concerned not only with describing individual and social activities of men, but also with finding out what God is doing in the world. This latter concern with God's activity would necessarily involve study of different current theological interpretations of the relationship between man and God — a very fruitful, if controversial, area of religious education.

Professor Brewer rightly observes that questions have been and will be raised about the ability of both education and religion to fulfill their tasks today, no matter how these tasks are defined. One can sympathize with his desire to encourage leaders in religious and educational establishments to cooperate in meeting more adequately the needs of the state, but he does not give much specific insight into how this might be done.

Perhaps the root of the problem lies in Professor Brewer's neglect of a tension reflected in the educational system of the state. On the one hand, there is the traditional sentiment in favor of rigid separation of church and state, and on the other hand, there is a general desire in Georgia to educate students to be religiously informed and sensitive. In this critique it is not possible to discuss the manifestations of this tension in detail, but some reference to it is pertinent.

Like other states, Georgia early in her history experienced this tension which has persisted down to present-day controversies over Supreme Court rulings outlawing prayer and Bible-reading in the schools. Even after the Declaration of Independence was adopted, Georgia insisted that citizens had to be Protestants and thus did not allow complete religious freedom.[1] But the state Constitution of 1789 declared that "all persons shall have free exercise of religion, without being obliged to contribute to the support of any religious profession but their own," and that document even went so far as to forbid any clergyman to be a member of the General Assembly.[2]

The present Constitution, as well as the new document proposed by the House Judiciary Committee, similarly reflects the tension. The preamble declares that the people of Georgia rely upon "the protection and guidance of Almighty God," but the Constitution also specifically forbids direct or indirect aid to any church, sect, denomination, or religion and affirms that "all men have the natural and inalienable right to worship God, each according to the dictates of his own conscience."[3]

Although religious motivation was partly responsible for starting public schools, and some instruction in the Bible and non-denominational religious values was common in the public schools at first, much of the religious content had been removed from the classroom by 1900 under the pressures of competing denominations and the government.[4] However, religious observances such as baccalaureate services and Christmas programs continued, and at the time of the Supreme Court ruling in 1963, Georgia was one of 13 states that not only considered Bible-reading in public schools legal but required it by statute.[5]

Concern that education might become completely secular as a result of court rulings and other developments undoubtedly led to a desire to reaffirm the importance of religion in education. Thus the following policy adopted by the Board of Regents of the University System of Georgia clearly indicates an attempt to deal with the situation.

> The principle of religious freedom is fundamental to our American heritage and way of life. Our forefathers settled in America seeking religious freedom. The authors of the Bill of Rights of our Federal Constitution obviously intended to preserve religious freedom. Throughout the years the several states respectively have supported this basic principle in recognition of the fact that our country was founded on the basis of freedom of religion and not on the premise or precept of freedom from religion.
>
> The principle of religious freedom means that the individual is free to exercise his religious convictions. Moreover, it means

> that church and state are separated, and as separate entities they are free of control from each other. On the one hand, the church is free to grow without assistance or hindrance from the state, and the various church denominations are free from state control. On the other hand, separation does not mean that the state is godless or that it considers itself exempt from spiritual values and moral law.
>
> The members of the Board of Regents of the University System of Georgia, as representatives of the State, are concerned with the growth and development of every phase of the being and personality of the individual student. A student should be given every reasonable opportunity to grow and develop intellectually, physically, socially, and religiously. To omit any one of these facets of growth would not be to the best interest of the student or the State. Thus, the members of the Board of Regents wish to commend the administration and faculty of those institutions in the University System which provided for the voluntary participation in non-denominational prayers and which foster a non-sectarian religious atmosphere in which a student may grow spiritually. To do otherwise would serve only to render aid to the disciples of atheism and give comfort to the enemies of our American way of life.
>
> A non-sectarian religious atmosphere may be created by chapel services, Religious Emphasis Weeks, courses in religion, student religious groups, but especially in the attitudes and dedication to religious values of the administration and faculty of each institution. It is the feeling of the members of the Board of Regents that the omission of religious values from the various institutions in a day in which there has been a tremendous growth of knowledge in the basic sciences creates a condemnatory imbalance of values.
>
> The free and voluntary exercise of religious freedom and the acknowledgment of our Creator as a Supreme Being, omnipotent and all wise, and upon whom our very existence, our liberty, and our pursuit of happiness are entirely dependent, should be prohibited by no one. But on the contrary, the free and voluntary exercise of religious freedom should be encouraged by all.
>
> Therefore, the members of the Board of Regents of the University System of Georgia wish to express through the Chancellor to the Presidents of all the institutions in the University System their desire to have religious values included in the total educational programs of each institution. The religious atmosphere of each college and the attitudes of the administration and faculty should reveal an explicit belief in and dependency on God.[6]

No doubt this statement reflects the general public attitude at present. Of course, some aspects of the Regents' policy such as the encouragement of prayer by the students may be legally questionable in the light of Supreme Court rulings. However, as Professor Brewer noted briefly in his paper, there has been a widespread increase in programs of study of religion in state universities. He neglected to explore the possibility of such study in the other public schools. It is often overlooked in the heat of emotional reaction that the Supreme Court, in its controversial ruling, specifically encouraged the objective study of religion in the schools, but only a few states like neighboring Florida have done much in this area.

It is also interesting to observe that this year the Southern Sections of the American Academy of Religion and the Society of Biblical Literature jointly recommended the following.

> 1. Academic study of religion is appropriate at all levels of learning, including the public schools.
> 2. Religion should be studied in the existing public school curriculum, such as social studies and English, wherever religion is a part of the subject matter.
> 3. Elective courses in religion, such as Religions of the World and the Bible as Literature, are to be encouraged.
> 4. Such study should be in a form and at a level commensurate with the pupil's ability.
> 5. Teaching about religion should be done by qualified, regular public school teachers rather than by teachers representing religious institutions.
> 6. Teaching about religion in the public schools is to be objective, non-sectarian, and descriptive in nature.
> 7. Curriculum development and teacher education in religion should be carried out by competent scholars in religion and by qualified public school educators in consultation with major religious communities.
> 8. The public schools are part of the community of learning, not the community of faith. Consequently, the pub-

> lic school authorities should be concerned with the study of religion, not the practice of religion.[7]

A number of other church and professional groups have recently passed similar resolutions, and if support for such proposals continues to grow, especially on the local level, the educational system in Georgia by 1985 might well include many courses in religion.

Some of the data given by Professor Brewer are bound to give rise to questions in the future. For example, if the value of church property increases as much as he suggests, will the state be tempted to levy taxes, particularly on holdings not directly connected with worship?[8] Could this money be used in part to finance the educational program in general and religion courses in particular without violating separation of church and state?

Organized religion at present does not have decisive, direct involvement in economic policies, Professor Brewer says. But if churches start using their economic muscle, e.g., by investing funds in black banks or businesses as militant groups are demanding, what reaction could be expected from society? As the paper pointed out, many church members strongly oppose such involvement in social issues, and even if they wanted to, it is doubtful that religious leaders in the state could at this time put much pressure on political, economic, and educational forces. However, as clergy and laymen become more informed about their potential power and more sophisticated in using it, radical transformations of society may well be occurring by 1985.

Professor Brewer shows accurately how much of Southern religion has become a "culture-bound" religion rather than a "culture-challenging" religion. He charges that this culture-religion has kept Georgia from entering the mainstream of American life, but again he gives little hint of what could be done about the situation other than to mention the forces of change already at work.

Perhaps one way the hold of provincialism could be broken while the valuable traditions of the Southern heritage are preserved at the same time would be by contact with other religious viewpoints in the classroom. The growth of pluralism that Professor Brewer notes in Georgia and the willingness of many religious groups to cooperate with one another could well lead to increased interfaith dialogue among students and a deeper widespread recognition of the distinctive contributions of each faith represented in the state, nation, and world. Adults likewise could profit from courses in religion provided by the schools and thus become informed about important issues.

Professor Brewer shows that religion has sometimes sanctioned inequalities and injustice and is now under attack from those whose needs have been overlooked. It is true, as he says, that many young people are questioning the established religion and dropping out of church and school, but it is also true that students are still interested in religious questions and are seeking a faith that deals honestly with life. It is difficult to deal with their questions in a one-hour-a-week Sunday School with often inadequately trained teachers, but perhaps religion courses in the school would help students find new perspectives. It would be unfair, of course, for churches to throw the burden on the schools. And it would be unduly optimistic to expect many miracles, but church and school may be able to work together along lines suggested in the resolution quoted above. Perhaps they will be able to produce religiously-informed persons sensitive to problems like the race and poverty issues that Professor Brewer mentions.

In his assessment of the future situation, Professor Brewer suggests that religious influence may decrease in Georgia as the state moves into the American mainstream with more secularism and pluralism. Of course, this is a possibility, and no one can predict the future with certainty. One can only share his hope that the leaders of the state's educational system and churches will do all they can to improve the educational and religious climate in Georgia so that in the future the worst aspects of the past will be eliminated and the best traditions of the heritage preserved.

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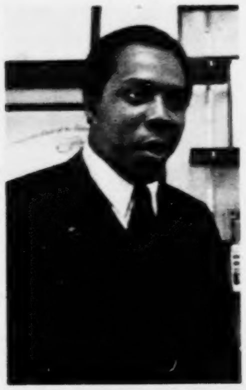
Civil Rights in Georgia

By Vernon Jordan, Jr., LL.B.



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THE civil rights picture in Georgia is bleak, and the outlook for the future is the same. Georgians could, if they would, completely alter this picture on their own resolve. Unfortunately, however, there is no reason to believe that white Georgians will do very much in the near future to change their basic posture of opposing civil rights progress to one of supporting civil rights progress.

This being the case, black Georgians will have to rely—as they always have in the past—upon support from the federal government in obtaining civil rights progress. At this level, too, there is much to discourage black Georgians at this time.

Contrary to the belief of most white Georgians, civil rights laws and court decisions of recent years have not dramatically changed the life of the average Georgia Negro. While there has been considerable progress, many discriminatory practices in the fields of education, employment, public facilities, justice, voting, and housing have not changed a great deal in the last two decades. This is especially true in rural Georgia.

Even the slow pace of progress in recent years is apparently being decelerated by the Nixon administration. As Negroes become increasingly frustrated and disillusioned over civil rights which exist on the pages of court decisions and law books but do not exist in fact, it would be reasonable to expect more direct action protest of the type that was widespread in the South during the early 1960s.

Georgia blacks today continue to pay an enormous toll because of the discriminatory practices in education and other fields under which they have lived all of their lives. The condition of poverty in which they live is another source of frustration and bitterness for many Negroes. Because of this severe economic disadvantage, many Negroes are unable to participate even in the very limited civil rights gains of recent years.

As one inventories the civil rights picture in Georgia in the year 1969, one is awed by how little progress actually has been made. One is amazed that so little real progress could cause so much acrimonious controversy. The patience of many black Georgians is rapidly wearing thin.

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THE state of civil rights in Georgia is, to put it bluntly, bleak. The outlook for the immediate future is the same. Whether or not the long-range picture improves depends, to some extent, on circumstances beyond the control of Georgians, both black and white. On the other hand, there is much that Georgia can do, if it will, to make equal opportunity and justice a reality for all Georgians. To date, Georgia has a poor record in civil rights and there are few signs that the record will improve.

To the extent that civil rights have progressed in Georgia, and there has been noticeable progress, Georgia has not done so willingly, cheerfully, and without all manner of resistance. The main thrust for change in Georgia, and throughout the South, has come from black people with the help of a precious few white people who dared participate in black efforts for change. Black people have brought about what change we have through legal action, non-violent direct action, selective buying campaigns, voter registration, and education. In response to the black man's dramatization of the injustices and inequities confronting him, the federal government responded, though at times reluctantly, with court decisions, administrative pressure, and eventually legislation and executive orders to help guarantee the civil rights of black people.

Georgia's response to the civil rights push of black citizens is found in statements by political leaders following the Supreme Court decision of May 17, 1954. Senator Richard B. Russell called the decision "a flagrant abuse of judicial power." Governor Herman Talmadge quoted a remark attributed to President Jackson after a fiercely disputed Supreme Court decision of an earlier day, "John Marshall made that decision. Now let him enforce it!" Lieutenant Governor Marvin Griffin smelled "meddlers, demagogues, race-baiters, and communists."[1] Mr. Griffin was nominated to succeed Governor Talmadge on the pledge, "Come hell or high water, races will not be mixed in Georgia schools." And Governor Griffin's successor, S. Ernest Vandiver, campaigned on the slogan, "No, not one," referring to school desegregation.

This attitude of non-acceptance and defiance has prevailed in Georgia at every turn. Every civil rights victory achieved by black people in the state was met with resistance, whether at the state or local level. Black people were forced to file lawsuits, demonstrate, protest, boycott, or to use their political power to effect change. This is true whether the issue was schools, libraries, public transportation, golf courses, lunchcounters, or whatever.

The one sign of slight moderation came during the administration of Governor Vandiver after the state lost a court fight over the desegregation of the University of Georgia. The Governor in an address before a joint session of the General Assembly in January of 1961 made a ringing declaration:

"We meet together to proclaim to all the world that public education will be preserved! Our Georgia children will be protected! Local administration and autonomy will be maintained! Grants will be authorized!"

He went on to say, indicating a move

toward moderation, "Every legal means and resource to circumvent the effects of the (Brown) decision, yes. Defiance, no."[2]

While state-wide political leaders took positions as indicated, Atlanta's leadership was far more constructive. But even Atlanta, a relative oasis in race relations in Georgia, did not meet its civil rights responsibilities without lawsuits, demonstrations, and political pressure.

It is clear that there have been changes and progress in Georgia's civil rights picture; yet they have been excruciatingly slow and are presently woefully inadequate. This is the view of black people in Georgia. Despite the school desegregation decisions and guidelines, Georgia Negroes know that the vast majority of black children still attend separate and unequal schools; despite the Civil Rights Act of 1964, Negroes are denied service in local roadside cafes; despite the laws and executive orders banning segregation in employment and housing, Negroes continue in the "same old jobs" and live in segregated ghettoes.

However, given the limited progress made, the policies of the Nixon administration signal a retreat. This retreat is reflected in a compromising, though ambiguous, school desegregation policy, an apparent unwillingness to push for an extension of the Voting Rights Act of 1965, and appointments to the judiciary and administrative posts. The crucial significance of these actions is that continued progress in civil rights in Georgia is tied, unfortunately, to a vigorous support of these rights by the national administration.

White Georgians have registered their disapproval of civil rights progress at the ballot box by voting for Senator Goldwater, Governor Lester Maddox, and former Alabama Governor George Wallace, all symbols of segregation. There appears to be an attitude among white Georgians of "What do the Negroes want now? We've integrated the restaurants, motels, public transportation, and some of the schools. We have hired a few in places where only whites worked at one time, and we now call them Mr. and Mrs. when they come in our store. So what more do they want?"

Clearly, that is the issue in civil rights in Georgia—black people see the progress made as only a beginning and whites see the progress made as sufficient. Perhaps this impasse can best be dealt with by an item-by-item discussion of the civil rights picture in Georgia.

Education

At the time of the Supreme Court's ruling against segregated education on May 17, 1954, Georgia was one of 17 states which had laws requiring separate schools. Black people in Georgia still suffer the results of the so-called "separate but equal" system. Although the schools were quite separate, they were, in fact, never equal. For example, a 1945 study by an Atlanta Urban League committee found that per pupil expenditures for w[illegible]upils in Atlanta was $108.70 comp[illegible] with $37.80 for Negro pupils. In terms of investment in land and buildings, the Atlanta Board of Education was spending $6 per white child for every $1 invested for a Negro child.[3] This type of disparity was generally true throughout the state. For example, in the 1953-54 school year, at the time of the Supreme Court decision, Georgia was spending $189.99 per white pupil and $132.09 per black pupil.[4]

Many Georgia Negroes recall the almost frantic crash building program of schools for Negro pupils just prior to the Supreme Court ruling. From the outside, these impressive new buildings gave the surface appearance of a move toward equality. But many black people recall how poorly equipped these schools were on the inside. Many recall that their textbooks were used and battered hand-me-downs that had been phased out by the white schools. Overcrowding and double sessions were common. In some areas schools were on short sessions when black hands were needed at cotton picking time. It would be many generations before black people could recover from the heavy toll taken by this discriminatory system, even if it had ended in 1954. But the *Brown vs. Topeka* decision did not bring an end to the separate and unequal school system in Georgia.

White Georgia resolved in 1954 to resist fully the Supreme Court decision. Defiant statements by Georgia's political leaders became the order of the day. For over 10 years local school boards, with the apparent sanction of the State Board of Education and top state officials, achieved almost total success in their unlawful efforts to resist or delay desegregation.

The inadequacy of court rulings alone in the face of defiant state and local officials is well illustrated by noting that in 1964 over 98 percent of Georgia's Negro school children were still in segregated facilities.[5] Even though the *Brown* decision had been a class action, and thus supposedly applicable to all persons similarly situated, the bitter truth was that the meager gains being made required further actions in individual school districts. The burden of these expensive and time-consuming battles fell on individual Negro families, supported by private organizations such as the NAACP.

After the passage of the 1964 Civil Rights Act, some progress in school desegregation occurred, although not nearly as much as the shrill outcries of segregationists and demogogic leaders might lead one to believe. The 1964 legislation specified in Title VI that federal funds should not be given to any program which was discriminatory. Under the obligations of this act, the Office of Education of the Department of Health, Education, and Welfare became involved in the efforts to desegregate schools and subsequently issued a series of guidelines, each one increasing somewhat the demands on recalcitrant school districts. HEW's efforts were boosted by court decisions that insisted upon affirmative actions to end the dual school system and that ruled so-called "freedom of choice" plans valid only if they resulted in the abolition of segregated schools. Eventually HEW issued deadlines by which all dual school systems should be eliminated.

Yet in the 1968-69 school year only 14.2 percent of the black pupils in Georgia were in desegregated schools. This was considerably below the 20.3 percent figure for the 11-state Southern region,[6] which indicates how poor the performance had been in both state and region. Viewed in one way, this represents a desegregation rate of less than one percent per year for the 15 years that have elapsed since the Supreme Court's initial ruling. At this rate it would be the year 2054 before all the black pupils in Georgia were attending desegregated schools.

By the summer of 1969 fewer than one-fifth of Georgia's school districts had complied with the desegregation standards set by HEW. Some others had filed acceptable plans of their "intended" desegregation in the near future. Over half of the districts had not done even this much, and some had not even made token efforts in this direction.[7] While HEW officials have predicted that the rate of desegregation will increase greatly in the next few years, little in Georgia history would support much confidence in this forecast.

Georgia officials have demonstrated time and again their skill and determination in defying the law in this matter. The experience with federal enforcement has not been forthcoming from the federal government in the past, and there are strong signs that much greater compromise with Southern segregationists may be the hallmark of the Nixon administration in Washington.

To begin with, HEW officials seemed to assume good faith on the part of Southern officials despite years of evidence indicating the contrary. Furthermore, over a decade after the Supreme Court had ordered desegregation with all deliberate speed, HEW first developed guidelines based on gradualism and tokenism. The device of cutting off federal funds from non-compliant districts, which involved slow and cumbersome procedures, has been used quite sparingly. In Georgia only 36 districts have had such funds terminated.[8] Moreover, local officials have frequently found ways to shift the penalty of reduced funds onto programs primarily aiding Negro pupils. Strong backing has been given to the efforts of local officials to evade or gain delaying concessions from HEW by the powerful Southern bloc in Congress. They not only constantly attacked HEW's legal authority for the actions being taken, but also more importantly, they successfully led assaults on HEW's budget requests, leaving the department without sufficient appropriations and manpower for its compliance programs.

Although the approach of HEW toward eliminating dual school systems has become somewhat more rigorous over a period of time, the successful implementation of the limited powers it has in this field requires total commitment from a national administration which is willing to use its authority fully and provide sufficient manpower to ensure that this authority is obeyed.

Thus far, the Nixon administration has presented a confusing array of positions on school desegregation, but increasingly it appears as if the federal government will be even more timid and accommodating to white Southerners in the future. For instance, recently a federal court was asked by the administration to delay segregation of 33 Mississippi school districts.[9] The outrage of many lower echelon lawyers in the civil rights division of the Justice Department over the administration's action further substantiated the growing suspicions about the new administration's commitment to a vigorous civil rights program.[10]

The effect of such actions, of course, is to slow down compliance all across the South. Why expect a Georgia district, reluctant from the start, to move ahead toward full compliance when the federal government itself is sponsoring delay in Mississippi? Also the administration's action cuts the ground from under those districts that have brought themselves into compliance. Already nine districts in Georgia which had filed plans for eliminating dual systems in the fall of 1969 have reneged on their promised compliance.[11]

The Nixon administration has moved to put all Georgia schools under court order to desegregate, but the effect of this is not clear. In the past desegregation in districts under court order has been less effective than in districts operating under HEW "voluntary" plans, with 7.9 percent of black pupils in desegregated facilities in the former types of Georgia districts and 18.4 percent in the latter type.[12] If a statewide court order will lead to the cut-off of federal funds to the entire state or the cut-off of state funds to non-complying local districts, then it may be an effective device. It may, however, serve only to add further delay.

In some of the districts where the dual school system is being abolished, tactics have been adopted which seem designed to create additional antagonism among reluctant whites and to harm the educational opportunities of all pupils. Claiming they were forced by HEW into such actions, these officials have closed formerly all black schools and crowded all pupils into the formerly all white schools, thereby overloading facilities which frequently were inadequate to begin with. These officials refuse the obvious alternative of sending some white pupils into the former Negro schools.

Another disturbing trend, recently cited by the Georgia Teachers and Education Association, is the dismissal of black teachers and principals when dual school systems are abolished. In a June

1969 report, GTEA noted that in 30 such systems in North Georgia the total number of Negro teachers had dropped from 742 to 544, and the number of Negro principals had declined from 54 to 24 between 1963 and 1969. At the same time, the number of white principals had increased from 284 to 308 in these systems.[13] Whatever might be said about the comparative training of white and black school administrators, the magnitude of these changes suggests something other than purely objective considerations of needs and qualifications. GTEA warns that this trend is likely to continue at an accelerated pace in middle and south Georgia.

Higher Education

Last fall's enrollment figures for the Georgia Institute of Technology showed 36 Negro undergraduates in a total enrollment of 6,662. There were 72 Negro undergraduates at the University of Georgia, where the total enrollment was 14,360.[14] In each case this is about one-half of one percent. That is to say, only one student out of every 200 at these two major state institutions is black. At Georgia State University approximately four percent of all students, full-time and part-time, are black. There is a desperate need in Georgia and other Southern states for Negro professionals—lawyers, doctors, engineers, pharmacists, veterinarians, etc. Despite the valiant efforts of the predominantly black colleges in Georgia, it has been demonstrated that they do not fill the need for well-trained Negro professionals. It is evident that the major state institutions, with their broader curriculums at both the undergraduate and graduate levels, should and must take in more Negro students.

Whether the simple elimination of official barriers to the enrollment of Negroes at these institutions is sufficient compliance with the spirit of the nation's law against discriminatory institutions must be questioned. Given the conditions created by Georgia's long history of segregation and inferior opportunities for black children, these institutions must develop active programs of recruitment and financial assistance for black students if they are to move beyond the hypocritical tokenism of their present "integrated" status.

The problems with education in Georgia involve more than just the abolition of a dual and unequal school system. There is a crying need for improved education for all children. The whole sad story of discrimination in Georgia emphasizes the wasted resources, the inadequate support and the resulting low level of education that generally characterizes the state. Georgians rank well down the national ladder in practically every measure of educational attainment. For example, the number of Georgians 25 years old and over who have completed less than five years of school is more than double the national percentage.[16] The state ranks 48th in the percentage of Selective Service draftees failing the mental tests. In per capita state and local expenditures for local schools, Georgia is 41st among the states, and it ranks 43rd in the number of pupils per teacher.[17]

Without question, the first priority in Georgia education must be the cessation of inferior treatment of Negro children, but ranking close behind this necessary goal is a general upgrading of facilities and opportunities for everyone.

Because of the complexities of the issues involved in school desegregation and because of the extreme importance of these issues, we recommend that the Commission on Educational Goals authorize the preparation of a special and complete paper on this subject.

We have made no attempt to discuss so-called "freedom of choice" plans in this section. Anyone familiar with the extremely disadvantaged and vulnerable position of blacks in the rural South should know that the "freedom" is for whites only. Negroes who take "freedom of choice" at face value and attempt to enroll their children in previously white schools immediately subject themselves to the fiercest sort of social, economic, and physical intimidation. Indeed, most of the racially motivated violence now occurring in the rural South centers around efforts of Negro parents to desegregate schools. The evidence is heavy, and we will not bother to cite it in detail here. The apparent feeling among some white Georgians that there can be such a thing as genuine "freedom of choice" is but one of many reasons why there should be a separate study by this Commission of the entire issue of school desegregation.

Employment

For generations very limited job opportunities have been available to Negroes in Georgia. Traditionally, jobs for Negroes in Georgia have been limited to unskilled and semi-skilled tasks. In rural areas opportunities for Negroes have been confined to such things as farm labor and lumbering. In urban areas Negroes commonly have been employed as maintenance people, janitors, domestics, and the like. Only in recent years has a significant number of jobs become available in such categories as secretarial work, clerks in stores and banks, and government service.

Historically, teaching, as a direct result of segregation in both education and preparation, has been the most accessible professional opportunity for black people. Black people were denied by law the opportunity to prepare in state-supported institutions for such professions as law, medicine, engineering, architecture, and pharmacy. Other black professionals such as social workers, college professors, and accountants have been educated, for the most part, in predominantly Negro private colleges or in schools outside Georgia.

Well within the memory of many black people is the time when such jobs as railway mail clerk, pullman porter, dining car waiter, and postman provided the best paying employment in the black community. While this is no longer the case, job discrimination—white-collar and blue-collar, public and private—is a major civil rights issue for black people in Georgia today. Despite the fact that black people are conspicuous now, especially in the metropolitan areas, in jobs heretofore held exclusively by whites, figures collected in 1967 by the Equal Employment Opportunity Commission showed that Negroes have only 3.2 percent of the white-collar jobs in the state.[18] This, of course, is well below the proportion of black population in the state. It also is well below the number who could be expected to qualify on a non-discriminatory basis.

The category of "white-collar jobs" as used above encompasses a broad range of occupations, and the percentage of Negroes in this category is somewhat misleading. Low as that figure is, it tends to overstate the progress Negroes have made in employment opportunities. Most of the Negroes in this category are in low-level positions, which usually do not carry the attractive salary and status generally associated with white-collar classification. Negroes still are seldom able to break into the managerial and professional positions. A 1966 EEOC study in the Atlanta area showed that only 0.8 percent of "Officials and Managers" and only one percent of "Professionals" were Negroes.[19]

State and local governments in Georgia are a major source of employment. They have not, however, opened their employment doors impartially to all the citizens whom they serve. State and local governments in Georgia by their employment practices do not set a good example for private enterprise.

A recent report on equal opportunity in state and local government employment published by the U. S. Commission on Civil Rights found that Negroes have only 32.1 percent of the city jobs in Atlanta, despite the fact that the city's population is 47 percent black. Only 5.6 percent of the state government jobs in Georgia are filled by Negroes. This percentage does not include the Board of Corrections, with 772 white and two black employees, or the Law Department with 50 white and two black employees. Black people have only 16.6 percent of the jobs provided by Fulton County, although 34.7 percent of the county's population is black.

The Commission report finds further that "of the 6,111 state jobs located in the Atlanta area about 350 were filled by black workers, one-third of whom work in the State Welfare Department. Two-thirds of the Negro professionals were employed in the State Welfare Department, as were 14 of the 18 Negroes in managerial capacities. They held less than five percent of the white-collar jobs, but 50 percent of the service worker jobs."[20]

Whether the issue is job discrimination in the private sector or the public sector in Georgia, it is necessary to rely on pressure from the federal government to begin to reduce employment discrimination. In the private sector, however, federal pressure is weak and timid. Between 1966 and 1969, the Atlanta Regional Office of the Equal Employment Opportunity Commission, a federal commission created by Title VII of the Civil Rights Act of 1964, received 1,673 complaints charging employment discrimination based on race.[21] Probably this is only the exposed edge of the iceberg. The office does not have sufficient funds and staff with which to investigate complaints promptly. There is an 18-month backlog of complaints.[22] Consequently, there is a lack of confidence in the EEOC process among those who might file complaints otherwise.

Nor does EEOC have the authority to press very far. Persons who file complaints are left without remedy, not only because of the time it takes, but also, because of the lack of statutory authority for the EEOC to correct discriminatory practices.

Except for the requirement of the Fourteenth Amendment of the Constitution, which prohibits discrimination by state and local authorities, state and local governments are almost entirely exempt from any federal non-discrimination requirements. State and local governments are exempt from the provisions of Title VII of the Civil Rights Act of 1964 which gives EEOC the limited power and authority it has. If equal employment opportunity in state and local government is to be achieved, the exemption from the coverage of Title VII must be eliminated. Furthermore, if equal employment opportunity is to be a reality in Georgia, EEOC must be granted the authority to issue cease-and-desist orders to correct violations in both the public and private sectors of employment. Providing EEOC with this additional power would "enhance its conciliation role by strengthening its bargaining power and make it a far more effective agent in insuring equal employment opportunity."[23]

Another method of eliminating job discrimination in public employment would be withholding federal funds. This would involve withholding funds from any state or local public agency that discriminates against any employee or applicant for employment who is, or would be, involved in any state or local activity assisted by federal funds. Such a provision would be particularly effective in the state employment security agencies and highway departments.

Assuming that the state and local governments of Georgia have an interest in the elimination of job discrimination in the public and private sector, there are two steps to be taken. A state Commission on Human Relations similar to those existing in Tennessee, North Carolina, Arkansas, and Kentucky should be established to investigate, negotiate, and formulate public policy on the issue. A state contract compliance program, similar to the federal program, should require governmental contractors to insure equal employment opportunity.

To date Georgia has indicated no inclination in this direction. Yet, for those public servants in the state who advocate states rights and denounce control and direction from the federal government, here are steps that can be initiated and implemented at the state and local level.

Public Facilities

In no other area of civil rights has white Georgia so badly misgauged the extent of progress—or, one should say, nonprogress—as in the area of public accommodations. Prior to the 1964 Civil Rights Act, separate accommodations in most public facilities in Georgia were as much law and practice as were separate schools. Passage of the 1964 law brought some painful changes, some violent changes (involving, in one instance, the present governor) and some peaceful change.

But most of the changes occurred in urban areas. It is now common to see Negroes in the better restaurants and hotels of Atlanta. White Georgians—particularly those living in the city—observe this and, generalizing from what they see, reach the conclusion that Negroes have nothing more to complain about in the field of public accommodations.

In rural areas, however, the situation is markedly different. A representative of the Voter Education Project of the Southern Regional Council recently traveled in approximately 20 rural counties in southwest Georgia. He found few restaurants that were desegregated. It seems that black people who are obviously travelers and who are simply passing through get service occasionally. But black people who live in the area are just as quickly threatened and expelled as they were 20 years ago.

In one county, we were told, a black person from California who was visiting relatives in the area was turned away from a roadside cafe with threats that the sheriff would be called. Our traveling representative obtained statements from four Negroes in another county saying that the manager of a local restaurant refused them service and added, "Scram, if you know what I mean!"

The isolation and frontier atmosphere in rural counties breeds fear. There seems to be no one to whom Negroes can turn. Local law officers can't be expected to help. It is they whom the restaurant owner calls to enforce, not civil rights, but segregation. The U. S. Justice Department is hundreds of miles away, and it responds slowly. Local Negroes in rural areas who "act up" know that they do so at the risk of their jobs—or something worse.

As for whites in these rural areas, the isolation provides security—a shield against "outside interference." The typical white attitude is, "We've got our own law here," and "It will take the Justice Department a hundred years to get down to a little county like this."

Localized demonstrations are beginning to occur around such issues as swimming pools which were closed to avoid desegregation. Unless Georgia does more to carry out both the letter and spirit of the 1964 Civil Rights Law, such demonstrations will very likely continue and become more numerous in the future.

Education has a responsibility to set an example and show the way in this field. Segregated education—through phony "freedom of choice" plans or whatever—sets an unhealthy example for other public agencies and for private business. By the same token, desegregated schools could set a healthy example for others in the community, in both public and private endeavors, if ours is to be one society rather than two.

Justice

The phrase "law and order" has an ironic and bitterly humorous ring for Georgia Negroes. The black Georgian might well ask, "What law? What order?" All of their lives Georgia Negroes have witnessed blatantly discriminatory and, often, vicious administration of justice, and the entire process has been in the hands of whites. Negroes have been arrested by white policemen, booked by white clerks, carried before white judges, listened to the verdict of white jurors, gone into white-run prisons, labored under white prison guards, and reported to white probation officers. For most Georgia Negroes, the face of the courthouse is white and hostile. Small wonder that the courthouse is for many Georgia Negroes a place of oppression, a place to be feared and avoided.

The story can be told in cold statistics. A 1969 study by the Southern Regional Council[24] found that sentences for all crimes average 19.6 years for Negroes in Georgia, against 12.2 years for whites. Hence the average sentence for Negroes is approximately one-third longer than the average sentence for white defendants. In verdicts after a plea of guilty, the average sentence for Negroes in Georgia was 19.4 years, against 13.7 years for whites. An analysis of verdicts after a plea of not-guilty found the average sentence for Negroes to be 22.9 years and for whites 11.4 years.

There is, of course, nothing new or startling about these statistics. It is a long established fact that there is a double standard of justice in the South, under which black people are more often arrested, more likely to be found guilty and sentenced (even when there is, as occurs not infrequently, some doubt about guilt), and most likely to serve long terms. In the use of the death penalty racism shows up in its most stark form. Eighty percent of those executed in Georgia are black, and among them have been 43 teen-agers.[25]

But the story that lies behind these statistics is even more disturbing and disgraceful. Practically every Georgia Negro has witnessed arbitrary acts, of one sort or another, on the part of white law enforcement officers. If he has not been a victim of such actions, he has a relative or friend who has. In rural counties in which a sort of frontier atmosphere still prevails, there is reason to believe that hectoring and harassing Negroes still is a form of sport and amusement among some white law enforcement officials. Many rural Negroes can relate stories to support this.

Most Georgia Negroes also can relate stories of how they have seen the maladministration of justice work in favor of white people. Many Georgia Negroes have witnessed local law enforcement officers directly and openly abusing the rights of others, or standing by idly and allowing others to do so. Civil rights workers long ago learned that racial discrimination is the unwritten, if not the written, law in much of Georgia, and that law enforcement officers consider it a part of their sworn duty to enforce this discrimination by legal means or illegal means. Whites who have attacked and abused civil rights workers and Negroes often have gone unpunished, even when the illegal acts were witnessed at the scene by law enforcement officers.

Now let us look at the courts themselves. Virtually all the judges in Georgia—federal, state, and local—are white. Likewise most of the subordinate court officials are white. Until very recently, practically all law enforcement officers were white, and practically all juries were all white. For good reason, Negroes feel that their rights are less than secure in such surroundings. Not a few Georgia Negroes have experienced the heavy hand of discrimination in the courtroom, especially when the opposing parties were white. Few Georgia blacks feel secure, even today, about going to court to protect themselves from the abuses of whites. They know of enough instances where whites have received unfair advantages over blacks in white-run courts. In a case pitting a white man against a black man, the black man with good reason regards a legal remedy as a hopeless cause and would be extremely reluctant to take the matter to most Georgia courts.

For ample reason, then, blacks are likely to feel more vulnerable when the penchant for "law and order" brings on talk of watering down and rescinding protections recently established for defendants by the U. S. Supreme Court.

It is also a well demonstrated fact that poor and unschooled people—people unable to hire a first-rate lawyer and unable to deal with the intricacies of the law—are at a disadvantage generally in American society. Since many blacks have been economically and educationally deprived, through processes previously described, they fall automatically into this disadvantaged group. Thus a wide range of protections available to whites—usury, workman's compensation, housing and zoning codes, consumer advice, bankruptcy, the wage-earner plan, etc.—are not available to most blacks. Thus legal assistance and protection for blacks—and all poor people—is of highest importance.

There are many other areas in which the rights of black people, and poor people in general, have been abused with little notice from the rest of society. Only recently have such matters as due process in public housing evictions or protection of the privacy and human dignity of welfare recipients begun to arouse the concern of a few of the middle class. In the next few years the dark underside of American justice will very likely be exposed, revealing just how selective has been the enjoyment of protections and privileges, which many whites have always considered part of their inalienable rights as American citizens.

Ask the average Georgia Negro about justice in the state and the typical response is apt to be a single word—rotten. The wonder is not that many Negroes are cynical about justice, but that more are not.

Juries have presented a major problem in the administration of justice in Georgia. Selecting jurors from voter registration lists is an improvement over the old method of taking names from the tax digest. But, since Negro registration lags considerably behind white registration in Georgia (66.1 percent registration of the black voting-age population against 84.7 percent of the white voting-age population)[26] Negroes are still at a disadvantage. Moreover allowing opposing attorneys a certain number of strikes can operate in such a way that Negroes are completely eliminated from juries. To the extent that white jurors reflect anti-black attitudes of the society in which they live, Negroes are further disadvantaged when their future is in the hands of a Georgia jury.

Black Georgians might feel more secure in the courtroom if there were more Negro lawyers and judges. In 1968 there were only 34 Negro lawyers in Georgia, or .62 percent of the total number of lawyers in the state. For every 34,029 Negroes in Georgia there is one Negro lawyer. If, however, the state population and the Georgia bar are taken as a whole, there is one lawyer for each 734 Georgians.[27] Since judicial positions are filled from the ranks of lawyers, the small number of Negro lawyers necessarily limits the number of Negroes who can serve as judges.

Again we come back to education's responsibility to provide training for more Negro professionals in Georgia. Education has a further responsibility to see that Georgia youth, white and black, have a better understanding of how the American system of justice functions and how it *should* function.

Voting

As one of the 11 states of the Old Confederacy, Georgia was among those states which moved deliberately and decisively in the late 19th Century and early 20th Century to disfranchise Negroes. Georgia did not move as fast and as far in this direction as did some of her sister states. Nevertheless, until very recent years, Negro voting strength in Georgia has been almost negligible.

At the beginning of the present decade only 180,000 Negroes were registered to vote in Georgia. By the summer of 1968, however, the figure had risen to 344,000, or 18.4 percent of the total Georgia registration.[28]

Georgia is one of six states covered in full by the Voting Rights Act of 1965. In these states less than half of the voting-age population voted in 1964. The act suspended literacy tests and authorized the U. S. attorney general to designate counties within those states for federal examiners. Examiners list (register) unregistered and qualified citizens for voting. Only six Georgia counties have been designated for examiners, the first being Hancock in November of 1966. This was for the purpose of assigning federal observers for an election in Hancock County. Records of the Voter Education Project of the Southern Regional Council show that federal examiners actually have listed (registered) voters in only three counties—Lee, Screven, and Terrell. The latest records show that federal examiners have spent an average of just over 100 days in each of these three counties. Since there are 159 counties in Georgia, it is evident that the Voting Rights Act of 1965 has not been put to extensive use in Georgia.

Because there is an ever present possibility that examiners may be sent into other counties, there has been a substantial increase in Negro registration since the Voting Rights Act went into effect in August of 1965. Prior to that date, black registration in Georgia stood at 254,000. Today black registration in Georgia is approximately 350,000—an increase of nearly 100,000. Today there are 34 black elected officials in Georgia, including 14 legislators, nine city councilmen, five county commissioners, five board members, and one county ordinary. Only a handful of these held office prior to the Voting Rights Act of 1965.

None of this should be taken to mean that the problems of registration and voting for Negroes in Georgia have been removed; far from it. The Voter Education Project still receives reports of registration offices closing arbitrarily, of discourteous registrars, and officials who refuse to allow registration workers to assist unregistered citizens with the registration process. And, of course, as in other Southern states, we get numerous reports, especially from rural areas, about Negroes fearing the loss of their jobs, loss of welfare benefits, or other economic reprisals if they register to vote. As in the rest of the South, fear prevents many Georgia Negroes from making the dreaded trip to the forbidding and frightening courthouse in order to register or vote.

Far too few Negroes are employed as clerks and managers at elections. Consequently many blacks are suspicious and distrustful of the election process. There is among many a feeling of futility. "What difference will it make?" and "The white man is going to run it anyway," are common expressions of this futility. Discriminatory practices in several Georgia counties—including Taliaferro, Sumter, Baker, and Dougherty—were discussed in the 1968 publication of the U. S. Commission on Civil Rights, *Political Participation*.[29]

Voting is one more field in which whites apparently believe that all the racial problems have been solved. It is another field in which federal officials in Washington have failed to grasp and come to grips with all the dimensions of the problem. It's another field in which federal enforcement has fallen far short of the promise implied in congressional legislation. It is another field in which blacks have made gains, but inadequate gains. Black registration in Georgia as of the summer of 1968 was only 56.1 percent of the black voting-age population as compared with a white registration of 84.7 percent of the white voting-age population. The number of black officials is only a token number of those Georgia Negroes, who are qualified for and entitled to public office.

As Negro voting strength increases, blatant racism in politics tends to decline. It can be said that this is the case in Georgia, despite the fact that the present governor recently proclaimed himself to be a segregationist and proud of it. Racism in politics today tends to march under the colors of such code words as "states rights," "local control," and, of course, "law and order." In the last two presidential elections, Georgia has been among that handful of states casting their electoral votes for the candidate taking the position most opposed to civil rights progress in America.

In his classic study, *Southern Politics*, the late V. O. Key, Jr. called politics "the South's number one problem." A few paragraphs further Dr. Key added

> In its grand outlines the politics of the South revolves around the position of the Negro. It is at times interpreted as a politics of cotton, as a politics of free trade, as a politics of agrarian poverty, or a politics of planter and plutocrat. Although such interpretations have superficial validity, in the last analysis the major peculiarities of Southern politics go back to the Negro. Whatever phase of the Southern political process one seeks to understand, sooner or later the trail of inquiry leads to the Negro.[30]

Dr. Key's book appeared 20 years ago, but the facts remain substantially the same. Racially oriented politics in the South continues to be an anchor slowing the region's process in all other fields, including social, economic, and education fields.

Although Southerners are naturally drawn to politics, there is a backwardness in understanding the political process and the role of government. Education has a definite responsibility in dealing with this deficiency.

The Voting Rights Act of 1965 will expire in August of 1970. If Congress does not extend the Act (without watering it down), many Georgia blacks face the prospect of losing their newly won right to cast a ballot. If Negroes are deprived of this right to seek remedies at the ballot box, it would be reasonable to expect more direct action protests of the sort seen in the early 1960s.

Housing

Ironically, in days gone by, Georgia and the South had some of the most integrated housing patterns in the nation. Many years ago it was a common practice for Negroes who worked as domestics, janitors, yardmen, etc. in Southern cities to live in what was known as "quarters." These Negroes' houses commonly were located in the center of a block surrounded by the white houses in which they worked.

Gradually these old blocks of housing, located near what is now the central city, have disappeared. Whites moved out to the new and inviting suburbs. Gradually the old homes gave way to commercial growth. Negroes moved to all-black housing, private and public, located near such essential services as bus lines, Negro schools, eating places, health centers, and hospitals. These were usually in or near the downtown area. Housing patterns in the South have become similar to those in the rest of the nation—segregated along economic and racial lines.

Housing is perhaps the most sensitive and complex matter in the civil rights field. Negroes forced off the land by farm mechanization and other agricultural trends have been flocking to the cities. They come seeking jobs and a better quality of life, including among other things, housing better than the miserable shacks which line the roads of the rural South. As Negroes move into the city, the demand for urban housing becomes acute. As the pressure for housing increases, neighborhoods change.

The pattern is a familiar one. Block by block and house by house, the Negro neighborhood expands. As Negro neighbors move closer and closer, whites flee. They flee first to outlying parts of the city, then to the suburbs, and then to surrounding counties. The central city becomes increasingly black, and the suburbs become white reservations. An example of this trend can be seen vividly in Atlanta where 47 percent of the population today is black, compared with 38 percent in 1960.[31]

By many standards Atlanta is regarded as one of the most progressive cities in the South. This includes the field of race relations. Atlanta has one of the few mayors who testified in behalf of legislation to desegregate public accommodations. Thanks in large part to its Negro voters, Atlanta is generally in the forefront in the field of human relations. So it can be said in most fields, if conditions are bad in Atlanta, they likely are worse in other parts of the state. A discussion of Atlanta then offers a guide to conditions elsewhere in the state.

All evidence indicates that segregation in Atlanta housing is increasing. In 1940 the population was 75 percent or more Negro in 22.7 percent of the city's census tracts. By 1966 this figure had risen to 34.9 percent. The population was 95 percent or more black in 21.7 percent of the city's tracts.[32] Applying the Taeuber index to measure the degree of residential segregation in Atlanta, the percentage of Negroes who would have to move in order to achieve an evenly distributed non-segregated city was 87.4 in 1940, 91.5 in 1950, and 93.6 in 1960.[33]

Leon Eplan, chairman of the Georgia Chapter of the American Institute of Planners, has pointed out that nearly half of Atlanta's population is jammed into one-third of the land. In 1960 overcrowding in Atlanta was four times greater in non-white households than in white. The 1960 census classified only 52 percent of Negro rental housing as sound and containing all the usual plumbing facilities. Ironically, because of the shortage of available housing in Negro neighborhoods, Negro rental housing usually costs more than similar housing available to whites.[34]

A number of devices, both crude and subtle, are used to maintain and increase housing segregation. These devices are well known and easily recognized by many urban Negroes. Many of these devices are carried out by local governmental agencies—city officials, zoners, and administrators. Several such devices have been described by Samuel L. Adams, former research director of the Southern Regional Council.[35]

One device is closing streets in such a way that white and Negro residential areas are not connected. Another is the placement of such things as public housing projects, expressways, golf courses, and cemeteries so that Negro and white residential areas are kept apart. Still another is the use of zoning regulations and housing codes in such a manner that housing of white areas becomes more desirable and thus more expensive, while housing in Negro or changing areas becomes less desirable and thus less expensive.

Another pattern with which urban Negroes are familiar is the decline in city services in black or transitional areas. Streets previously cleaned regularly are no longer cleaned. Garbage pick-ups slow down and fall behind. Housing code and zoning enforcement become lax. Schools become overcrowded and run-down, and double sessions are instituted in these schools while white-oriented school boards concentrate on improving the "better" schools in the suburbs.

The real estate industry is an important part of the pattern of segregation in housing. "Panic selling" is encouraged by well documented blockbusting tactics. A Georgia regulation, effective last July, prohibits blockbusting. Moreover, there are indications that legal remedies will become increasingly available to those who wish to protect themselves against blockbusting and stabilize their neighborhoods.

One of the more encouraging announcements to come from the Nixon administration (amid many other less encouraging announcements) is the interest shown by Jerris Leonard, assistant U. S. attorney general in charge of the civil rights division, in making blockbusting unprofitable. Mr. Leonard correctly says blockbusting imposes a "race tax" and believes, "The way to stop blockbusting is to take the profit out of it."[36] Accordingly, the Justice Department has thrown its weight behind a suit by Chicago Negroes to recover high profits obtained by speculators in the resale of housing to Negroes. The principle, if established, might have application in other fields in which blacks pay more than whites.

It might be noted here that a stabilized neighborhood is not a desired goal of the real estate industry. The real estate industry makes money on the basis of houses bought and sold, the more houses that are sold and bought, the more money the real estate industry makes. A rapid turnover of property in a changing neighborhood means more income for the real estate industry. Of course, personal prejudices work against real estate brokers and homeowners selling to a Negro in a white neighborhood in which change is not imminent. Going further, there is a reluctance, as recently established by the Georgia State Advisory Committee to the U. S. Commission on Civil Rights, on the part of bankers to finance loans for Negroes wishing to buy housing in white neighborhoods.[37]

Still another means of maintaining segregated housing is violence. Bombings, cross burnings, telephone threats, harassment, and vandalism frequently are employed in efforts to slow down or stop Negro "encroachment."

Here again the correcting strength of the federal hand is needed. The 1968 Civil Rights Act contains provisions designed to guarantee open housing by prohibiting discrimination in the sale, rental, financing, or advertising of dwelling units. This act, which was passed after the assassination of Dr. Martin Luther King, Jr. promises much. While it is too early to assess its consequences, many observers, including some officials in the Department of Housing and Urban Development,[38] suggest that its effectiveness will be reduced because adequate funds and staff for full enforcement are not provided.

Needed, too, are local or even state fair-housing laws to supplement the federal laws. There is no need to place responsibility for this entire matter in the hand of the federal government when both whites and blacks alike suffer from blockbusting, panic selling, and outlandish profiteering. If Negroes could buy a home anywhere in the metropolitan area without difficulty, then there would be no place for whites to "run." Better distribution of public housing in the various sections of the metropolitan area would further ease the ghettoizing of certain areas of the cities.

The words *irony* and *ironically* have been used several times in this paper. The field of race relations is full of irony. An irony that presents itself here is the role that government, including federal government, has played in segregating housing in America.

FHA and other federal housing programs have made possible much of the white flight to the suburbs. FHA has insured over 10 million houses, mostly for middle and upper class buyers. These programs produced few houses which the disadvantaged, many of whom are black, could afford to buy. While FHA was insuring over 10 million houses, other programs were producing some 800,000 low-income units over a 31 year period. Hence the federal programs must accept some of the blame for white out-migration, urban ghettos, and the related problems besetting the cities today.[39]

Furthermore, Eplan has pointed out that FHA and other housing agencies have actually engaged in and encouraged restrictive covenants and other means of maintaining separate neighborhoods. Moreover, it has been pointed out that the welfare program is a major subsidizer of slum housing. Because welfare payments are too small to pay for decent housing, welfare recipients must use their meager funds to pay rent which lines the pockets of slum landlords.[40]

Housing is another field, like public accommodations, in which economic want renders new civil rights legislation virtually meaningless for many Negroes. A black family earning less than $5,000 a year is hardly in a position to make use of his right to buy a home in the suburb, even if he were inclined to do so. Thus, money is another factor operating to maintain racially segregated housing.

As the demand for low-cost housing increases, the supply continues to fall behind. Governmental actions such as urban renewal, expressway construction, and code enforcement take low-cost housing off the market and make the shortage even more acute. Ninety-five percent of the families displaced by urban renewal projects in Atlanta have been Negroes.

The lack of decent housing, the shortage of better housing, and the economic limitations upon obtaining better housing are major causes of discontent among Negroes. None of us would be willing to accept consignment to a slum ghetto cheerfully. Unless housing conditions for blacks, both rural and urban, improve in the near future, this discontent will grow rapidly.

The Future

In discussing the future of civil rights in Georgia, one point must be made at the beginning. The issues in civil rights have changed. The major issues are no longer access to public accommodations and facilities, the right to vote, and school desegregation per se. The law is settled on these questions, although, as indicated, enforcement and implementation of the laws leave much to be desired in Georgia.

Progress in civil rights to date has brought into focus more fundamental issues which are in fact the logical extension of the civil rights fight. The issues now are poverty, hunger, health, sanitation, economic development, transportation, merger and consolidation of city and county, unemployment and underemployment, urban renewal, and model cities. In other words, once the right to eat at the lunch counters of Georgia was established, whether enforced or not, the issue automatically became whether or not the black man had the kind of job that would pay him enough money to take advantage of the right to eat at the lunch counter. Once the right of Negroes to register and vote became law, then with their new political power they addressed themselves to issues of public policy, such as welfare and poverty which relate to black needs and aspirations. It is no accident that the Economic Opportunity Act of 1964 followed the Civil Rights Act of 1964. Indeed the civil rights movement gave birth to the war on poverty in America. Legal rights are an indispensable element in the achievement of the more important goal of full realization of human rights. With the removal of legal barriers, there comes the struggle for improving the quality of life generally.

The question of participation permeates all of the new issues in civil rights. The concept of participatory democracy has taken hold among citizens, black and white, rich and poor, who historically have been alienated from the decision-making process in government programs. It may well be that the greatest contribution of the war on poverty is its concept of "maximum feasible participation." This concept allows citizens at the local level to have a voice in the programs and policies that affect their lives.

The organization in black communities of groups addressing themselves to specific issues directly affecting them provides a preview of the civil rights arena in years to come. There are welfare rights groups, tenants' rights associations, cooperatives, domestic unions, poor people's corporations, better-school groups, and health and nutrition organizations. All are developed to focus their energies on the new issues affecting the rights of black people.

In this context of new issues, one cannot overlook a major new civil rights thrust in the South, the "Union Power Plus Soul Power Equal Victory" movement. This drama unfolded in the last year and a half in Memphis, Atlanta, St. Petersburg, Macon, Charlotte, and Charleston. The movement, despite its tragic consequences in Memphis, will no doubt continue in Georgia and throughout the South.

The recent open clashes between blacks and whites in Pittsburgh and Chicago will probably become a civil rights issue in Georgia, if the construction and building unions, as well as others, continue to exclude blacks. The decision in early September, 1969, of the NAACP to sue in the federal courts to halt all government-financed building unless qualified Negroes were employed in the projects is an omen of things to come.

As crises develop over these new civil rights issues in Georgia, the questions are: What kind of leadership can we expect from our political leaders and makers of public policy? What constructive and thoughtful plans and programs are on the planning boards? Will Georgia's political leaders respond with the same non-acceptance and defiance that followed the 1954 Supreme Court decision? Will they abdicate as they have before the responsibility of positive, constructive leadership?

How one projects events to 1985 necessarily depends in considerable part on how optimistically or how pessimistically one answers these questions.

Summary and Recommendations

In examining civil rights in Georgia, one is confronted with a few basic themes and numerous variations as one moves from field to field. The major features to be found in almost every aspect of civil rights developments in this state might be listed simply as follows.

- First, Negroes have had to protest in one form or another for every improvement that has come about. Nothing has been forthcoming from other Georgians without prolonged pressure or the threat of such.
- Second, in most instances state officials have either directly resisted efforts toward progress or have responded to unavoidable pressures with such reluctance, indifference, or ill-will that they hindered the full accomplishment of the measure in question.
- Third, pressure from Negro protests and the inaction or resistance of state officials have necessitated the intervention of the federal government to help protect the constitutional and human rights of many citizens of this state.
- Fourth, this federal protection has in every instance been insufficient, leaving many Negroes still lacking part of their citizenship.

The result of these circumstances is that one finds today in Georgia some noticeable advances over a few years ago. Many whites are impressed by the changes that have occurred in recent years. For most blacks, however, there is little to celebrate when they see less than 15 percent of their children in desegregated schools, white officials continuing frantically to find ways to evade the nation's law; a minute proportion of Negroes obtaining white-collar jobs, while most remain in low-paying positions and many are unemployed; plush city restaurants and hotels accepting Negroes when few blacks can afford such adventures, and their brothers in rural areas are still barred from the less fancy establishment in those locations; increased voter registration, but few meaningful choices on the ballot; an occasional black face in the jury box when they know that their people are subjected to a higher rate of conviction, longer sentences and harsher treatment before and during arrest; proclamations of open housing laws when the cost of decent housing constitutes a cruel mockery of their income, and they continue to experience exploitation, and whites continue to flee at the very sight of Negroes.

Finally, black people are finding little appreciation and much bitterness in seeing again and again the national government extol the passage of civil rights and equal opportunity legislation, knowing from the experience of previously shattered hopes that the implementation of this legislation will be crippled by inadequate funding and administrative compromise.

What is the relationship between these conditions and the future of Georgia education? There are certain obvious recommendations that emerge from this survey.

- All segregation of facilities and discrimination in opportunities should be eliminated.
- The quality of education for all students should be drastically upgraded.
- State institutions of higher education should initiate aggressive recruitment efforts and extensive programs of financial assistance in order to increase the number of blacks entering the various fields of professional training.
- Conditions of poverty which cripple a child's capacity for learning or prevent him from fully participating in available education opportunities must be eradicated.

It is too naive to state simply, as many do in an evasion of other responsibilities, that education is the key to improvement in all areas. Nevertheless, a better education is undeniably an essential ingredient in the complex solutions that are demanded. Good housing and legal protection are obtained today only with considerable money. Adequate income presupposes a good job. Worthwhile employment requires education and training.

In the past the cycle has moved in the opposite direction for many citizens. Being black meant poor employment and poor living conditions which in turn made it more difficult for his children to take full advantage of even the poor educational facilities that were available. To emphasize the importance of education in the improvement of other problems leads inevitably to the necessity of eradicating those conditions which hinder educational attainment.

Education and the future of civil rights in Georgia are related in other ways as well. A good education means a truthful education. A true understanding of the history of this country and the conditions which have produced its present predicament is an absolute necessity if civil rights are to cease being a problem and if the state and nation are to realize the dream which represents their noblest potential. The schools cannot accomplish this alone, but they must rid themselves of the overt obstructions they now embody and take every positive step possible.

There is no need to spell out in this paper the measures which this demands. It is obvious that textbooks and teaching must no longer convey distorted accounts, whether by omissions or blatant inaccuracies, of the history of the white, red, and black people of this country. Along with rightful praise for the accomplishments of white Americans must go an unblinking view of the horrible despoilation and exploitation produced by racist attitudes and practices in white society. The contributions of black men to the development of this nation must be credited. An understanding of the effects of centuries of discrimination and a clear view of the conditions that still prevail in this affluent democracy are necessary.

Only with this knowledge can future generations address themselves honestly and meaningfully to the task of bettering this country. Perpetration of glorious myths about a "way of life" which was in fact full of cruel and inhuman practices must be replaced by courageous efforts to build a perspective in which we can all see ourselves truthfully. Only then is there hope that any of us can be free.

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critique:

Civil Rights in Georgia

By Donald Hollowell,
Regional Director,
U. S. Equal Opportunity Commission

THE instructions for writing critiques on position papers suggest that one might use not more than five to 10 pages. I assure you not nearly that many sheets will be required for this critique which will be in narrative form.

Generally, the material used and the presentation by the writer of the paper were quite good. Indeed, everything that was said was, in my opinion, factual and needed to be said. At the same time, I am of the opinion that the general focus was a bit too narrow. That is to say, in virtually each of the topics, the writer focused almost exclusively on civil rights as they affect black people. And though this is a necessary consideration—one which is too often neglected—at points there might well have been broader approaches to the problems, or, at least, a wider report on the dual effects.

I gleaned from my reading of the whole paper that it was the intent of the writer to have it understood that generally the white community does not find itself basically affected in a negative way by those aspects of civil rights referred to in the paper. Thus, there was no great need to discuss this. I am of the opinion that while there was a discussion of the effects of justice—or the lack of it—it might well have been important to make some reference to the prison system in its affects upon inmates and how inmates are denied their civil rights and liberties under the system.

The matter of jail bonds becomes a very integral part of the detention system. One can be denied rights; indeed, one can be punished by the untimely setting of bonds or the excessiveness of bonds. Thus, some space might well have been addressed to this matter.

Then, too, the length of time which often exists between the time of arrest, arraignment, indictment, and trial is one of the sorest of problems. Civil rights and civil liberties are frequently violated through the mal-administration of judicial and prison systems.

Contemporary issues relating to haircuts, clothing, campus demonstrations, and the like could have been discussed. Also, in these days school officials and students are very concerned about the rights of students and very concerned about the rights of student and teachers to be represented at hearings before educational administrative bodies as well as to what extent they are entitled to due process. Then too the very question of the rights of so-called "hippies" to enjoy the First Amendment is not discussed, or, to put it in the negative, there could have been some discussion on the extent to which these persons are at least allegedly being denied the First Amendment and other rights.

The frequency with which people are arrested without warrant; the effects of the Escabedo and Miranda doctrines, not to mention the use of wiretapping in the obtaining of evidence illegally, might very appropriately have been alluded to if not discussed.

The matter of school desegregation, the need to comply with the laws pertaining thereto and the obligations of school administrators, other public officials, parents and children to deal objectively with the problems inherent therein, could constitute volumes; thus these matters were not improperly excluded. However, a short paragraph pointing up some of the issues could have been properly and possibly beneficially included.

Some of the above may well relate more to civil liberties. Yet, because of the tremendous interest which exists in these matters and, inasmuch as there is no section which deals directly with these issues separately, I am of the opinion that they might well have been dealt with in a paper on civil rights. This is especially true where the paper is being done for an educational group which might not desire to make the nice distinctions between the two.

In conclusion, I suggest that though inclusion of some aspects of the above is considered important for purposes of more balance, the critique is not intended to diminish the importance of the recommendations and the section on future.

Equality of Educational Opportunities for Black Children and Youth in Georgia

By Wiley S. Bolden, Ed.D.

Study Director,
Tuskegee
Institute
Role and
Scope Study

NEVER before in the nation's history have the federal government and leaders in the nation's educational community expressed such concern for the future of public education. At the heart of this concern is a growing recognition that millions of minority group citizens *"have been cheated in access to education, jobs, housing, medical care, and other necessities of American life,"* [1] and that *"either public education must succeed in guaranteeing every citizen an equal chance at obtaining the rewards of an open society or the American experiment in equality of opportunity fails."* [2] This intensification and spread of public concern in matters of equal rights and equal educational opportunity for black Americans and other minority groups has largely been attributed to the Civil Rights Revolution of the 1950s and 1960s, which has repeatedly pointed up the strategic importance of education for the ultimate realization of equal employment, fair housing, and political equality.[3]

Concern over Georgia's "education crisis" has prompted special effort on the part of educational leaders to inform fellow citizens of the extent of the state's educational needs. In a paper prepared for the Governor's Conference on Education in October 1968, these needs are described as follows.

> The economic future of Georgia is dependent on the level of education of the citizens of the State. For example, Georgia stands 42nd among the 50 states in the average years of schooling completed (nine years) by citizens 25 years old or older. The State is 40th in per capita disposable income, 39th in per capita personal income, and 38th in per capita retail sales.

> The close correlation between the average level of education of our citizens and these economic factors is not accidental. By every economic index, the economic strength of the State is directly proportionate to the education of its people.
>
> Since this is true, even if one disregards humanitarian, cultural, political, or other considerations, the need for adequate financing of public education is imperative.[4]

The crucial importance of race relations as a factor in the education-economy relationship should not be overlooked: the economic future of Georgia is partly a function of the extent to which the black population of the state has opportunities for education and income equal to those of the white. The contention that traditional Southern race relations impede Southern economic progress is long standing; it is strongly supported by evidence presented in a recent study of the South by a team of experienced economists and educators.[5]

Thus, the status of education in Georgia may be viewed as follows. Georgia faces a severe education crisis; the core of this crisis is the state's failure to insure equal educational opportunities for its black citizens; racially segregated public education perpetuates unequal educational opportunities; traditional Southern race relations support racially segregated public education; the education crisis in Georgia is essentially a "crisis in black and white."

Enlightened efforts to improve public education in Georgia will give priority to improving educational opportunities for blacks. This paper purports to assist such efforts. Specifically, the paper considers the changing interpretations of the concept of equality of educational opportunity and suggests interpretations that would seem most relevant to education in the present and in the future. Further, it calls attention to ways in which certain conditions affect educational opportunities of black children and youth in Georgia and suggests certain broad approaches to equalizing their opportunities in the state's educational system.

The Concept of Equality of Educational Opportunity

Although there is wide concern about equality of educational opportunity, there is also wide lack of agreement about its meaning. There may be several reasons for this. For one thing, the concept does not remain stable. New meanings evolve as public education shapes its policies and practices to meet societal demands. Further, it is a vastly difficult concept, especially when it comes to formulating definition in terms of policies and practices; a complex of philosophical, moral, ethical, pedagogical, political, and economic issues is involved. And as is the case with many concepts that are suffused with feelings, thinking clearly about "equality of educational opportunity" does not always come easily.

Equality in Terms of Racial Composition of Schools

Long-standing interpretations of the concept of equality of educational opportunity were modified in 1954 when the United States Supreme Court ruled in the case of *Brown* vs. *Board of Education* that "in the field of public education, the doctrine of 'separate but equal' has no place. Separate educational facilities are inherently unequal."

As a means of encouraging the implementation of the 1954 ruling, the U. S. Supreme Court issued a mandate to the U. S. District Courts ordering states to integrate schools with "all deliberate speed." The Court said that it would allow the states a "reasonable time to integrate schools," but warned them "not to drag their feet." The reluctance of many school systems to abide by the 1954 decision resulted in the passage of the Civil Rights Act of 1964, which provided for cutting off or denying federal funds to school systems that fail to comply.

Difficulties in compliance led to further Court decisions.

In March 1967, the Fifth Circuit Court of Appeals directed each state within the circuit to take all necessary affirmative action to bring about a "unitary school system in which there are no Negro schools and no white schools—just schools." This ruling introduced Southern whites to an entirely new meaning of the concept of equal education: the idea that desegregation meant not only Negro children attending formerly all-white schools but also white children attending formerly all-Negro schools. Freedom-of-choice plans were inaugurated in many school districts, but for the most part these plans had resulted in a few Negroes attending formerly all-white schools. In May 1968, the United States Supreme Court issued a ruling stating that a plan utilizing freedom-of-choice is acceptable only if it proves effective in abolishing the system of segregation and its effects.

In his account of the crusade for the betterment of educational opportunity in the South, Clark, an eminent Southern historian, notes how Southern educational statesmen interpreted the concept of equality of educational opportunity before 1954.

> When earlier educational statesmen talked of inequalities in educational opportunities, they referred to the rural versus the smaller urban centers and to the difference between states and sections of the Union. They, of course, considered the plight of the Negro, but seldom if ever did leadership at the state level stop to consider the social, economic, and political ramifications of the struggle for equality. Too, the term equality often was thought of in fundamental meanings of the same terms in the modern twentieth century industrial society.[6]

Ostensibly, the pre-1954 interpretation of the concept is implicit in current official statements of educational policies in Georgia.

Today, 15 years after the 1954 United States Supreme Court decision, most Negro children in Georgia attend all-black schools, and most white children attend all-white schools. The crisis nature of this situation is dramatized by the following sequence of recent events.

- August 1, 1969. The United States Justice Department in an unprecedented move filed suit against the Georgia State Board of Education to disestablish the "dual system of schools based on race." The suit charged that 159 of the state's 192 school districts operated as dual systems in the 1968-69 school year, and 116 of these systems did not have a plan for desegregating the schools.
- September 5, 1969. The State Attorney General, Arthur Bolton, filed motions in the United States District Court at Atlanta asking that the federal complaint be dismissed or that the state be dropped as a defendant in the suit, because the state lacked authority over integration in the state school system.
- October 22, 1969. The Justice department countered by filing a motion in federal court designed to force complete desegregation of Georgia's public school system by the beginning of the 1970-1971 school year. This motion would affect the 83 school districts in the state which have not desegregated or are not under Court order.
- October 29, 1969. The United States Supreme Court ruled unanimously that "every school district is to terminate dual school systems at once and to operate now and hereafter only unitary schools."
- November 3, 1969. The Legal Defense Fund attorney for the National Association for the Advancement of Colored People filed a motion in the United States District Court at Atlanta asking for immediate pairing of schools in all Georgia school districts that have two racially identifiable schools.

The State of Georgia faces mounting difficulties in properly acting upon the concept of equality of educational opportunity interpreted in terms of racial composition of schools.

Equality in Terms of Educational Results

Among contemporary interpretations of the concept of equality in educational opportunity, those that seem to have greatest consequences for education in the future define equality of educational opportunity in terms of the effects or outputs of schooling rather than inputs. One such interpretation is that *equality of educational opportunity is equality of results regardless of pupil differences in ability and background*. This interpretation of the concept indicates a reversal of roles of the school and community on one hand and the child and his family on the other. That is, responsibility for creating achievement no longer lies with the child and his family, but with the school.

Coleman illustrates this point when he says that:

> The difference in achievement at grade 12 between the average Negro and the average white is, in effect, the degree of inequality of opportunity, and the reduction of that inequality is the responsibility of the school.[7]

According to this view, then, equality of educational opportunity is not automatically achieved by school desegregation; there is an additional requirement: Schools must produce equal results (in terms of achievement and other stated goals of instruction) with black and white pupils. The appropriate quantity and quality of input resources such as faculty, curriculum, and teacher quality are determined by the requirements of equality of output. Understandably, by simply equalizing school input resources, the long standing inequities in achievement of black and white pupils cannot be expected to vanish. The equal treatment of "unequals" will produce neither equity or justice.

Equality in Terms of Economic Results in Education

A broader interpretation of equality of educational opportunity as effects of schooling is the view that equality of educational opportunity means *not only equality of educational results but also equality in jobs and income.* According to this view, the realization of equal educational opportunities, if measured by achievement scores alone, cannot be expected to bring about equality of opportunity in society at large; direct efforts must be made to solve the problem of racial discrimination in jobs.[8]

While this interpretation of equality of educational opportunity has special implications for school practice, it also supports the widely held contention that the task of equalizing educational opportunities cannot be accomplished by the school alone but will depend upon what we do elsewhere in the economy, the political domain, and in the society as a whole.

Generally, there is a close relationship between occupation and level of education and between education and income; nevertheless, the effects of education on income differ considerably between racial groups. For example, with each additional year of education, short of post-graduate study, blacks benefit less, both absolutely and relatively, than whites in terms of increased income. These differences are not eliminated when effort is made to account for differences in the quality of education blacks and whites typically receive. According to one study, equating for both quantity and quality of schooling between races would reduce the racial revenue disparity by less than one half.[9]

These differences in earnings between blacks and whites are the result of discrimination. Blacks receive lower wages than whites, even when they both do the same work; blacks are excluded from many higher paying jobs that would fully utilize their talent and training; the potential productivity of blacks is lowered due to lower expenditure for black than for white public schooling and health services.[10]

In the South, both the scope and intensity of employment discrimination against blacks are more pronounced than in other regions of the United States. A dramatic case in point is the recent review board expose of "discrimination in its rankest form, in the regional United States Office of Economic Opportunity at Atlanta."[11]

Thus equality of educational opportunity, when defined in terms of equality of income, implies that the school must discover ways in which it can best utilize its resources to help eliminate discrimination in employment and other areas of American life.

Some Adverse Conditions

A necessary step in planning for the

betterment of public education for black children and youth in Georgia is the identification of conditions that reduce the effectiveness of current educational efforts.

A Climate of Non-Acceptance and Resistance to School Desegregation

In Georgia today many black children attend school in an atmosphere inimical to educational progress and clouded by community reaction to school desegregation. Walkouts, boycotts, picketing, and confrontation mirror the community resistance that is officially expressed in noncompliance or limited compliance with desegregation guidelines. Separatism and alienation increase.

As of May 1969, 36 Georgia school systems had lost federal funds for their failure to comply with desegregation guidelines.[12] Consequently, over the past three years 20 million dollars in federal funds have been lost to Georgia school systems. The loss of federal funds has caused the abandonment of enrichment programs and the reduction of the school lunch program for underprivileged children. The curtailment of these needed programs and services not only causes physical and psychological damage to children but undermines the future of the state's human resources.

School districts in compliance with the guidelines appear to have an overriding concern with the desegregation process to the neglect of substantive programs to make desegregation work. Much of the furor attending school openings in fall 1969 seems to have stemmed from this neglect. In Valdosta, schools were closed because of the dissatisfaction of black students with the method of selecting the homecoming queen and the school band's playing "Dixie." In Albany, schools were closed because of white students' charges of harrassment by black students, the tense situation having been generated by black students' resentment to "Dixie." In Pike county, schools were closed after the walkout and subsequent suspension of black students resulting allegedly from conflict between a black and a white student. In Hancock and Coffee counties schools were also closed because of racial antipathy.

In their desegregation programs school boards and superintendents often have not provided means of mitigating racial tensions. School boards are microcosms of the community, and school superintendents are servants of the boards and the community; thus, in the face of hostile community reaction school officials do little or nothing initially to ease the strain of transition to a desegregated system.

The disruption of the Albany High School stimulated an investigation by a committee of the school board. The committee, while leaving "Dixie" unscathed, avowed a determination to maintain an orderly environment to insure the rights of students "to the best possible education."

Requiring black children to play and sing "Dixie" or expecting them to pay respect to the Confederate battle flag or to participate proudly in sports for a team bearing the name "Rebels" reflects the height of insensitivity to the feelings of black children and raises serious question as to the professional judgment of the school personnel involved. As the late Ralph McGill noted, these symbols are "offensive to many persons because of what they indisputably represent and symbolize—a time of slavery and a war fought to retain it."[13]

Racial tension has led to temporary disruption of the educational process. Moreover, separatist movements have developed that are likely to engender more damaging and enduring effects upon public education. In many Georgia communities, private schools have been established or are projected. The avowed purpose of these schools is to provide "quality education," that is, segregated education for white students. While black children and parents continue to be in the vanguard and bear the heavier burden of efforts to desegregate Georgia's schools, it is safe to say that a few blacks in the state, as in other parts of the country, are beginning to embrace the view that all-black schools are better for their children. An extension of this view is the feeling that black people should control their own institutions.

Although the white private school movement and the movement toward the all-black school and black control appear to be the same order, this is not the case. Indeed, both movements are buttressed by the demand for "quality education" and are typically classified as separatist; they are, however, of a different genus. Underlying the slogans of white separatism is the implicit assumption that "quality education" can be achieved in the traditionally segregated context, thus white separatism is a rejection of the principle of desegregation.

Blacks, as virtually every minority ethnic group in America has, are beginning to resist "one-way integration" or assimilation. This resistance is a turning back into one's self, into one's community. It is simply a search for identity, a quest to uncover one's cultural heritage. It is not a rejection of the principle of desegregation, but an affirmation that desegregation proceed on a broader base. It is in essence alienation from a system which assigns inferiority to other cultural groups.

The view that blacks should control black institutions is more complex than the quest for black identity. One dimension of this view is the feeling that blacks understand the problems of blacks and consequently would be more sympathetic to these problems. Another dimension is that blacks *should* control black institutions. This latter dimension is chauvinistic and is consonant with the white separatist view. Campbell and Schuman point out two aspects of "black separatism."

> One is largely political and social, calling for black control of black institutions that serve black population and for concentration of all informal social relationships within the black community. The other . . . is cultural in the sociological sense of the term and attempts to encourage the growth of positive black identity, a realization of the significance of black achievement, both in Africa and America, and a desire to contribute to the development of the black community.[14]

Research studies continue to strengthen the generalization that black children suffer serious harm when their education takes place in public schools which are racially segregated, whatever the source of such segregation may be. Black children who attend predominately black schools do not achieve as well as other children, black or white. On the other hand, the white child in the desegregated school continues to achieve at his accustomed rate.[15]

While achievement is an important goal of instruction, it is not the only one. Today preparation for life means preparation for living in a multi-racial, multi-cultural world community of tomorrow. Abundant evidence supports the conclusion that integrated education and interracial contacts can foster improved relations among black and white people.[16] Separate education does not. Keeping black children in all-black schools and white children in all-white schools might well mean sowing seeds for disunity in their inescapable future encounters.

RESEGREGATION. One manifestation of unwillingness of whites to accept desegregation is the orderly but sometimes hasty withdrawal of white pupils from their previously all-white schools once the enrollment of black pupils reaches a sizable proportion. Several studies have sought to develop criteria for predicting the critical point or tipping point. These studies suggest that the increase in enrollment of black pupils and the corresponding decrease in enrollment of whites is often correlated with a similar movement in the school's community and with the rate of increase in black enrollment. Two outstanding examples of cities where schools were desegregated and then quickly resegregated as white families moved out of the city are Washington, D.C., and Baltimore. Atlanta has been experiencing the same phenomenon: Since 1960 26 of its schools "have gone from white to black or virtually black."[17]

The continuous and sometimes rapid shift in the racial composition of the student body of a school heightens intergroup tensions, undermines student body solidarity, disrupts normal progression of activities from one school year to the next; diminishes community support, and often leaves a frustrated school staff, many of whom are unprepared for the change.

TEACHER DISPLACEMENT. Recent school desegregation efforts in the South have resulted in demotion, displacement, and dismissal of black teaching personnel. The National Education Association's *Report of Task Force Survey of Teacher Displacement* in 17 states documents 668 displacements of experienced teachers between May and September 1965. Of this group 23 are Georgia black teachers displaced because either of participation in civil rights activities or of school desegregation.[18]

According to the Georgia Teachers and Education Association "*Research Report*," the extent of teacher and principal displacement in 30 Georgia counties over the six-year period, 1964-65 to 1968-69, is significant. The total number of black teachers decreased from 742 to 544, a loss of 27 percent. The total number of black principals decreased from 54 to 24, a loss of 56 percent, while the total number of white principals increased from 284 to 308, an increase of eight percent. Twenty-four of the counties had fewer black teachers, and 21 counties had fewer black principals, yet the student enrollment in the systems increased by 8,600. The GETA report further indicates that the teachers and principals already lost to the profession in these 30 school systems represent a loss of nearly $1.75 million in annual purchasing power to the black community.[19] Both the NEA and GTEA reports suggest that the number of displacements is probably larger than the figures indicate because many of the displaced teachers fail to file complaints or otherwise make known their plight out of fear of being barred from getting a new job. The fact that black teachers with tenure and good teaching records have been displaced as school systems have moved toward desegregation poses a continuous threat to black educators in Georgia public schools. This anxiety-producing situation impairs teacher effectiveness.

Further, the manner in which the black teacher or principal responds to this situation affects his relationship with black youth. As he attempts to move up in the social structure, the Negro in the education profession, as in other areas of work, faces the dilemma of achieving a sense of self and an identity without "selling his soul" to the white community. Black youth have been heard to derogate and reject their black teachers who out of fear of losing their jobs "go along with the system." Among these black youth are many who have come to reject teaching as a career choice because they perceive public school teaching as involving undue restrictions on self-expression and dignity. On the other hand black youth have typically expressed pride in teachers (black and white as well) whom they respect for their integrity on racial matters and have vigorously defended these teachers in situations where their rights are perceived to be threatened.

A School System Directed by the White Community

Black children in Georgia, as in many parts of the nation, attend schools in a system in which the major decision-making functions are controlled by the white majority. No black child has a parent or close relative who is a member of the State Board of Regents or the State Board of Education or who holds the position of state or local school superintendent. Almost all of the approximately 1,132 members who comprise the state's local boards of education are white citizens. According to a recent count, among over 2,000 employees of the Georgia Department of Education only 16 are black professional workers none of whom is classified above the level of Consultant or Itinerant Teacher Trainer. These blacks, however, have served in the Department from five to 25 years, and compared with their white colleagues in similar positions, are believed to be generally as well or better qualified.

Perhaps the most significant deviation from this pattern of segregation of educational leadership is seen in the local board of education and superintendency in the Atlanta public school system where the 1969 elected board includes three blacks. Over the previous four-year period, two of the school board positions were held by blacks. Currently in the office of the superintendent there are three blacks including an assistant superintendent and two area superintendents. The assistant superintendent, formerly an area superintendent, was appointed after local parents and community leaders demanded that blacks share the top administrative positions. However, with black pupils comprising 65 percent of the pupils enrolled in the Atlanta system and with blacks having approximately 40 percent of the voting strength in the city, these developments in power-sharing seem modest.

The argument that black professionals do not qualify for top administrative and supervisory positions is unconvincing. Similarly, the argument that there are no black citizens of sufficient stature in the state to merit appointment to either of the two state boards is equally unconvincing. Negro professionals who qualify and Negro citizens of stature do live in Georgia.

The conspicuous absence of blacks in the policy-making echelons of the educational system is only one example of the ceilings, barriers, and limits to opportunities of black people in the state. In general such restrictions are unfortunate. Specific psychological effects of the large scale exclusion of blacks from the state's educational hierarchy are no doubt many. Indeed, it is not surprising, in this kind of situation, that pupils and parents can come to identify their white school officials with other aspects of a society that in many ways is oppressive and racist. Their "white only" rank and status sharply set them apart. Black pupils and parents perceive these officials as subscribing to a system that assigns blacks inferior status.

In the context of a society that places such restrictions on the personal and professional development of its members because of race, it is futile to launch special school programs designed to improve the self concept, raise aspiration levels, or stimulate achievement of black pupils. Dodson hypothesizes that "it would be impossible for a youth who is a member of a group who is powerless in the community to grow and mature without trauma to his perception of himself because of the compromised position of his group in communal life."[20]

It is common knowledge that many well prepared, ambitious blacks leave the South in search of broader opportunities. A list describing the current professional standing of those who for this reason, have left Atlanta within the past 10 years would be impressive. That this outmigration of talent promises to continue is suggested by a recent survey of family background characteristics and future plans of black students entering 83 Negro colleges in the South. This study reveals that "over two-thirds of (them) hope to leave the South following graduation. In an overall sense, these students view their colleges as avenues of upward mobility."[21]

Writing on the importance of increasing the degree of participation in educational decision-making by the involvement of groups previously excluded from influence, Samuel Bowles states:

> Let us continue to ask what school policies should be adopted. But let us also ask *who* should decide, and *how*. We must, of course, attempt to right the particular wrongs which we observe today; but we must attempt as well to understand why our system of decision-making in education has worked so consistently to the disadvantage of Negroes and the poor. Let us first understand it, and then let us change it.[22]

The impression should not be left that Georgia's educational establishment is the only area in which blacks are not fully included or that their exclusion from other areas of the society is any less damaging to Georgia's future.

A System That Undereducates

Georgia's system of education fosters relative underdevelopment of its black pupils, both in terms of numbers of years they complete in school and the level of achievement attained as a result of instruction. Some specific features of the system that have an especially deterrent influence on the development of black children and youth pertain to guidance services, vocational education, and preschool education.

FEWER YEARS OF SCHOOLING. Wide discrepancies exist between white and nonwhite citizens in terms of numbers of years completed in school. In 1960 the median years completed in school by whites was 10.3, by nonwhites, 6.1. Compared with the average nonwhite in other states, the average nonwhite in Georgia has completed the fewest years of school.[23]

In 1960 among persons in Georgia 25 years and older with less than five years school completed, 10.3 percent were white and 39.7 percent were nonwhite. In only two states, Louisiana and South Carolina, did the percentage of Negroes who had completed less than five years of school exceed Georgia's.[24]

LOWER LEVELS OF ACHIEVEMENT. Comparative statewide data on academic achievement of Negro and white pupils have not been available. However, data from several sources may throw light on comparative achievement levels of the two groups.

Comparative data on the school achievement of Negro and white pupils in the Atlanta public school offer some perspective on the extent of inequities in public school education in the state. With a heterogeneous pupil enrollment of approximately one-tenth the total enrollment of the state's public schools, the Atlanta system is Georgia's largest and one of its highest in total cost per child, based on average daily attendance.

In a study conducted by the Education Testing Service for the Atlanta Public School System in 1955-56, all pupils in the system in grades 4, 6, 8, and 12 were administered standardized achievement tests. A summary of the findings indicates that

> Median and average scores for white pupils are above, at, or within striking distance of national averages at all grade levels...
> The average scores of Negro pupils fall progressively farther behind national averages and averages for Atlanta white pupils as they advance from primary grades through high school. In reading, the difference between average scores is about one grade at grade 3, nearly two grades at grades 4 and 5, and nearly three grades at grades 6 and 8, and over four grades (in English) at grade 12.[25]

Better Schools Atlanta, a committee of Atlanta citizens, analyzed official records of results from standardized reading tests administered to all pupils in grades four and eight in 1966-67 and grade four and seven in 1967-68. This committee reported that:

> Fourth grade pupils in black schools are more than one year behind white schools based on median reading scores. By eighth grade, pupils in black schools are four years behind.[26]

Despite the lack of equivalency of the reading tests administered in the 1955-56 study (The Stanford Achievement Test) and 1966-68 study (The Metropolitan Achievement Test), the similarity of results from the two studies suggests that inequalities which prevailed in the Atlanta Public Schools 12 years ago exist today. Further, if it is correct to assume that the Atlanta system is one of the more advanced systems in the state, then it can be hypothesized that the inequalities in achievement of black and white pupils in many of the less advanced systems are at least as great as those of Atlanta. The persistence of the achievement gap between black and white pupils in Atlanta does not mean that the schools have neglected this problem; some special efforts have been directed toward reducing the gap. The facts simply suggest that these efforts have not been adequate.

INADEQUATE GUIDANCE SERVICES. There are not enough guidance workers in the elementary and secondary schools of Georgia to meet the standards described by the state.

Some 270 high school counselors are needed to reduce the current ratio from one counselor to every 700 students to one counselor to every 500 students. Some 10,370 elementary school counselors are needed to obtain the desired ratio of one counselor to every 500 students. Some 340 visiting teachers and social workers are needed to reduce the current ratio from one worker to every 4,600 students to one worker to every 1,500 students. Some 70 or more psychologists are needed to reach desired standards.

Insufficient personnel obviously means inadequate services. Inadequate services undermine the development of students, especially low-income black students for whom the services provided by the school may be the only dependable and valid source of information for guiding decision-making pertaining to their future personal, educational, and vocational goals.

Actually, the standards do not seem to prove desirable ratios of professional workers to students in light of the extent of needs of black children and youth. Because their socialization so often takes place in the context of adverse circustances of home and community, these children present a high incidence of personal and social difficulties with which they need help at school. Further, the developmental problems of many black youth are compounded by their recognition of the vast discrepancies that exist between precept and practices in American society and by their involvement in a whole new set of personal-social concerns related to new and sometimes conflicting concepts of blackness. Some estimates indicate that the percentage of children needing help in deprived areas may be five times as great as in affluent areas, where rate of dropouts, academic difficulties, absenteeism, discipline problems, health problems, etc., are much lower. Thus a smaller number of students per guidance worker may be required to effectively assist black children and youth with their problems and needs. The application of *standards* in depressed areas may, rather than equalize opportunity, actually deny opportunity to many children.

Inadequate vocational guidance for low-income black students can appreciably affect employment opportunities for black youth. Understandably, many black youth continue to maintain a narrow view of the world of work in spite of information they may pick up about new opportunities that would be available to them if they were prepared. Such information can sometimes have peculiar personal meanings for them. A black youth may not know which of the new opportunities are possible for him or how he can get from where he is to where he must go, developmentally, in order to qualify for one of them. He may doubt that he has a real chance of obtaining such an opportunity, since there is no one among persons he knows who has done so. Further, his parents and friends are not likely to have sufficient experience to confidently or correctly assist him in making appropriate choices. Under such conditions, he often drops out of school or otherwise fails to develop saleable skills.

In spite of accessibility of public institutions of higher education in sections of the state, a marked disproportion of black youth is not finding its way to college. Creative guidance programs at both the elementary and secondary levels are needed to increase the chances of Georgia's black children and youth entering and succeeding in college or vocational-technical school.

The undersupply of school guidance workers is not the only aspect of guidance services especially damaging to black children and youth. Another is the fact that counselors, especially white counselors, often have not acquired the needed professional competence to work effectively with black children and youth. When schools are desegregated, special problems are sometimes posed by having a black counselor and a white counselor, only one of which can be placed in the school. Where there is only a white counselor in a desegregated school situation, there is a good chance that the needs of black children will not be adequately met. The white counselor's limited knowledge and misperceptions about how black children grow up in America can handicap him in efforts to understand their behavior. Typically, his experiences in schools, colleges, and community will have been in all-white settings. These experiences provide him with little background for understanding the needs and behavior of black children in integrated settings. His limited understanding and skills in testing minority group children make work in this area hazardous. And his lack of understanding of his own behavior in interpersonal interracial settings can undermine his personal effectiveness. Such counselor deficiencies are sometimes reduced by special in-service training experiences.[27]

Restricted Opportunities for Vocational-Technical Education

Georgia continues to improve and expand vocational-technical education programs at the post-high and high school levels; however, present developments are generally known to be inadequate. Limited opportunities for vocational-technical training and outdated vocational-technical curricula pose major barriers to economic opportunities for the poor, especially the black poor.

The post-high vocational-technical schools accommodate fewer blacks, because fewer blacks than whites graduate from high school, and fewer black graduates are admitted to these schools. Not only is there a need for more vocational-technical schools, there is a need for the acceptance of more responsibility by the school system for helping black youth successfully enter these schools.

The high school vocational curriculum typically involves courses in the areas of home economics, agriculture, and commercial studies. The absence of a more comprehensive program attuned to occupational aspirations and concerns of students and to community needs in business and industry severely penalizes poor black youth with limited opportunities for post-high school training; the high school curriculum may afford their only opportunity to develop skills needed to get jobs. Indeed, high school vocational and commercial courses represent the largest single source of training for persons not going to college, and jobs that require no skills are almost non-existent.

Also, for many black youth a good vocational program, particularly one that involves direct meaningful experiences in the world of work, is often the motivating influence for remaining in school. A program of this kind may seem more compatible with goals they have set for themselves than an academic program that fails to address itself to the world in which they live.

LIMITED OPPORTUNITIES FOR PRESCHOOL EDUCATION. The lack of opportunity for preschool education may cause irreparable damage to the child who happens to live in a home environment that provides insufficient stimulation for optimum intellectual development. While there is almost no experimental evidence that preschool education can have significant lasting effects on cognitive behavior, there is substantial evidence that the early years of life are critical for the growth of intelligence and that preschool programs can help build the experiential and cognitive readiness requisite for success in school.

Opportunities for public preschool education do not exist in most counties in the state. Among the children whose development is most impaired by this lack of opportunity are black children of the poor, especially poor rural families.

UNEQUAL OPPORTUNITIES FOR HIGHER EDUCATION. Higher education in the State of Georgia remains largely segregated. A report from the United States Office of Education reveals that among black students enrolled in 22 state controlled institutions of higher education during fall 1968, 17 percent was in 19 traditionally white institutions, and the remaining 83 percent was in three traditionally black institutions—Albany State College, Fort Valley State College, and Savannah State College.

Additional observations relevant to equality of opportunity for blacks in the state's higher education system are provided by a study of *Normative Data for the 1967-68 Freshman Class University System of Georgia*, a report published by the Board of Regents. Comparisons of the Scholastic Aptitude Test scores of entering freshmen at the University System of Georgia (white) and the University System of Georgia (Negro) indicate the following.

- Each year over the past 11 years, 1957-58 to 1967-68, the average SAT score of entering freshmen in the USG (white) has exceeded the average SAT score of entering freshmen in the USG (Negro). The difference between average scores has increased. Over the last five years, the mean increase was greater than over the first five years.
- The distribution of scores of entering freshmen in the USG (white) and of entering freshmen in the USG (Negro) suggests that the two systems serve student populations of different ability levels. In fall 1967, the scores of almost all (99 percent) of the entering freshmen in the USG (Negro) were lower than the average score of the entering freshmen in the USG (white). Less than one percent of the entering freshmen in the white system had scores as low as the average score of entering freshmen in the Negro system. The lowest one percent of the scores of entering freshmen at Georgia Institute of Technology exceeds the scores of 99 percent of entering freshmen in USG (Negro).

The distribution of scores of entering freshmen in the USG (white) reflects a wider range of ability than the distribution of scores of entering freshmen in the USG (Negro). Thirty-three percent of scores of entering freshmen in the USG (white) exceeds the highest score in the distribution of scores in the USG (Negro). More than 96 percent of the scores of students of the USG (Negro) is as low or lower than the lowest one-fourth of the scores of students of the USG (white).

These observations suggest that in the University System of Georgia, selective admission standards work to the disadvantage of black students in all but three institutions attended largely by blacks who received their elementary and high school education in segregated public schools of Georgia. Under present conditions, blacks not only stand slight chance of being admitted to more prestigious and academically recognized institutions such as Georgia Institute of Technology and University of Georgia, but even their chances of entering the junior colleges seem poor. Ostensibly the rationale of a system of education that operates in this fashion is: *Since black high school graduates who seek admission to the State University System have been provided an inferior education through public schools of the state, this practice should be continued at the post-high school level by maintaining the appropriate* *kinds of institutions and admissions policies.*

Under these circumstances blacks continue to get the short end of the public school system. In addition to human wastage that accrues, this kind of undereducating system has a self-reinforcing effect because many of the state's black public school teachers will continue to come from among graduates of the Negro colleges of the system. Thus poorly prepared teachers produce poorly prepared students, many of whom matriculate in teacher education programs at poor colleges and subsequently become poorly prepared teachers.

Further, the racial separation of the state's future leaders does nothing to promote the kinds of understandings and appreciations that foster effective relations between black and white leaders.

If current state and federal inputs in the USG (white) and USG (Negro) should remain proportionately the same, what are the logical consequences of the continuation of the current selective admissions policies of the University System of Georgia (Negro)?

- An obvious result is an increasing discrepancy between the proportion of the black and white populations who obtain schooling beyond high school and who receive training for work in scientific and technical areas and in the professions.
- The students who enroll in the black institutions will be of increasingly poor quality while those who enroll in the white institutions will be of increasingly better quality.
- Blacks enrolled in all-black institutions will continue to receive a poorer quality of education while students enrolled in the white institutions will receive a better quality of education.
- The differential in the quality of education received by black and white students in state institutions for higher education will increase.
- The black institutions will become increasingly stigmatized as low-grade institutions designed for blacks who are not bright enough to gain admittance to the USG (white). Teacher and student perceptions of this situation will serve to undermine teaching and learning and lower aspirations.
- As a result of the continued frustrations of their personality needs (adequacy and self-esteem, etc.) by the actual and perceived inferiorities of the Negro institutions in which they learn and teach, Negro students and their younger teachers will openly reject these institutions along with those who support and sustain them.

A System That Miseducates

The extent to which Georgia's public school instruction in American History properly portrays the contribution of the Negro is the subject of concern of a House Committee established after the 1969 General Assembly defeated a bill to require Negro history courses in public schools of the state. Similar concern has been expressed by black parents who are distressed by racial and class and nationalistic biases boldly evident in their children's textbooks but apparently subscribed to by teachers who lack proper orientation to the minority group experience in the country.

The 1965 survey of instructional materials conducted by the Lincoln Filene Center project on race and culture in American life found that the text of most elementary readers and social studies carried these messages.

> The child should be clean and well-mannered; the ideal family is clean, co-operative, safety-minded, and white; the ideal family has been in America a long time, owns a car and home, and is upper middle class; hard work with the ax, shovel, etc. has got us where we are; other groups and countries do not seem to have our spirit and so we are superior; the first ones to America (English, Dutch, French) [are] generally the best; and others [are] not well treated; qualities of the Negro are represented by his slave status with very little mention between reconstruction and 1954; the Negro [is] slowly "earning" his place in society; progress depends upon the me-

> chanical, technological, and economic growth of America and not on the improvement of democratic human relations.[28]

With its white, western, Christian, upward-mobile bias, the public school curriculum continues to support the development of a negative self concept, patterns of self-rejection, and hostility in black children, and in white children internalization of negative attitudes toward Negroes and the development of unrealistic superiority feelings. There are signs that for black children this depreciatory influence of the school may be lessened by the new mood of black awareness, black identity, and black pride.

Perhaps the most critical shortcoming of the curriculum is its failure to address itself to the most serious issues of our time, racism and poverty. This failure not only adversely affects black children and poor children but advantaged white children as well, since racism and poverty present a threat to the nation's security that only cooperative efforts of all—the oppressed and the oppressors—can remove. Certainly the school can never fully serve the "disadvantaged" until it exploits wholeheartedly the resources available to it for eliminating conditions that produce disadvantagement.

If the black child is to achieve equality, the school will have to help bring it about. Currently, schools fail to teach the black child political effectiveness—the value of political participation as an instrument for individual and group betterment and the skills and strategies of politics. The school has failed to teach problems of the Negro in American life—segregation, discrimination, poverty, delinquency, dropping out of school—as a central political and moral issue in American life.

The result of a study released at a three-day symposium on Patterns of American Prejudice conducted at the University of California at Berkeley reveals that

> "Virtually no one in educational institutions is trying very much to do anything about prejudice." Conferees agreed that "American public schools should 'grasp' missed opportunities to reduce racial and ethnic prejudices, despite the limitations of their powers to change the social system."[29]

As the struggle for equal rights and equal opportunities proceeds, public school administrators and teachers will find it increasingly impossible to avoid coming to terms with major social issues if they are to effectively relate to their constituency. On this Kohl states

> To teach honestly and not anger or alienate the children, one must be honest about failure and hypocrisy in American life. One cannot talk of equal chance and freedom of choice to people who have no opportunity or freedom, or at best very little. One cannot avoid the depths of prejudice in this society nor the misunderstandings of cultural differences . . .[30]

A Pedagogy Based on Misperceptions and Faulty Knowledge

A pervasive influence upon the education of the black child in the United States today is the perceptions that educational leaders—school board members, superintendents, teachers, counselors, etc.—hold of him. How he is perceived or defined significantly affects public and private views of what ought to be or what can be done about him.

Prior to the last decade, scant attention had been given to scientific study of the psychological, social, and cultural aspects of black people in America. Over the past few years, stimulated by the availability of funds for research from the federal government and from foundations, monumental efforts have been directed to the study of the "disadvantaged." However, along with many excellent studies, considerable misinformation has been disseminated, often through studies of well-intentioned researchers unaware of their ethnocentric bias or inappropriate methods. In addition, there exists the perennial teacher lore and the "from-my-experience" wisdom that all too often are highly erroneous and virulent. From these and other sources many educational leaders have acquired faulty ways of perceiving minority group children. These misperceptions have sometimes furnished the materials out of which barriers to equal educational opportunities are unwittingly constructed.

Among some of the more common misperceptions of the black child are the following.

- He is culturally deprived (or culturally disadvantaged, educationally deprived, economically deprived, etc.,—simply deprived or disadvantaged).
- He lacks interest in schools because his parents basically are not interested in education.
- He is lazy, lacks ambition, and will not work hard at school tasks.
- He cannot be expected to learn as much or as readily as a white child because of his innate intellectual inferiority.
- He learns best in all black schools where he will be more comfortable and where teachers will understand his peculiar needs.

The fallaciousness of these ways of viewing the black child is firmly established in the literature of the behavioral sciences. Moreover, psychologists and other behavioral scientists are beginning to gain insight into sources of some of their ethnocentricisms and biases that in one way or another often support misperceptions of blacks.

A growing number of behavioral scientists are convinced that there is a need to re-evaluate what psychology has taught about Negro culture.[31] Almost all of the data that have been produced to date have been interpreted in terms of either one or the other of two deficit models—"biological incapacity (genetic inferiority) or social deviance and pathology (environmental deprivation)." Despite the importance that psychology attaches to biological, sociological, and cultural factors in the understanding of behavior, psychology has seldom explained Negro behavior in terms of Negro culture, except when culture is used in a distorted and negative sense. This is evident, for example, in the use of the concept "culture of poverty," a concept in terms of which the behavior of the poor is viewed as an unfortunate reaction to their condition.[32]

Baratz and Baratz propose the "cultural difference theory" as a framework for interpreting Negro behavior. They assert that

> The statistical differences noted by psychologists in intelligence testing, in family and social organization, and in attitude studies of the Negro community are not the result of pathology, faulty learning, or genetic inferiority. These differences are surface manifestations of the viable structured culture of the Negro American, a culture which is the synthesis of African culture in contact with American-European culture under slavery.[33]

The perception of the black child in terms of a deficit model has led teachers to expect him to learn minimally or not at all and to treat him accordingly. Rosenthal and Jacobson in their research on teacher attitudes have shown that teachers' expectations of children can be self-fulfilling.[34]

Gordon elaborates the dynamics of this process as follows.

> Children who are treated in school as if they were ineducable tend to see themselves in this way and almost invariably become ineducable. Similarly, children who are placed in inferior groups suffer a sense of humiliation. . . . They come to dislike themselves, and tend to function in a self-defeating, self-destructive manner. Either they become consumed with self-hate, which can take the form of depressed apathetic behavior, or they come to project their self-hatred onto society, in the form of delinquent behavior.[35]

Formal research has revealed how schools confirm lower-status black children in their sense of failure and incompetence. Leacock found in the schools she observed that low-status Negro children were consistently treated as unable to learn and were groomed to accept their own basic inferiority and its accompanying low level of aspiration. Their teachers were kind and casual, but the intellectual level of instruction was low.[36]

New support has been presented for the view that there is no justification for any child with an intact brain, who is not severely disturbed, not to learn the basic scholastic skills. Bloom argues that "95 percent of all children can learn what we have to teach them." The problem has been "we haven't wanted everyone to learn." [37] He agrees with Bruner that ways can be found to teach anything; it is a matter of determining what procedures will be effective in helping particular students learn the subject under consideration.[38] In light of these views, when children fail to learn, the failure rests largely with the school.

Approaches to Equality of Educational Opportunity

Because of the enormously complex problems that pertain to equalizing educational opportunities, no simple or sure solution is available. However, knowledge of approaches that might be successfully pursued far exceed commitment to trying them out. While there is no question that the school must accept major responsibility for the achievement of equality of educational opportunity, the efforts cannot fully succeed without the reinforcement and support of the efforts of other segments of society including government, industry, business, and religious institutions. And basic to all these efforts, if they would be meaningful, is a "productive commitment" to the eradication of the fundamental conditions in society that produce and sustain inequity rather than an abortive preoccupation with "nice" activities designed to banish their symptoms.

Among some approaches that appear to confront fundamental conditions that affect equality of educational opportunity within schools and school systems are the following: adult basic education, community school, consolidation of school systems, public school kindergarten programs, reduction of pupil-teacher ratio, teacher aides, and teacher education. Excellent recommendations on these approaches have been formulated for Georgia schools and are readily available in the following publications.

> *Georgia's Challenge, a total program of education*, Conclusions of the Governor's Conference on Education, 1968, Atlanta: Georgia School Boards Association.
>
> *Reducing School Dropouts, GEIC Recommendations*, Atlanta, Georgia, Educational Improvement Council, 1968
>
> "Georgia Education Needs," a paper for use at the Governor's Conference on Education, October 8-9, 1969, (no author).

The recommendations discussed in the sections that follow either add new content and emphasis to some of the approaches developed in the foregoing publications or introduce some general approaches not included in these publications.

• COMMIT THE STATE OF GEORGIA TO SPECIAL EFFORTS IN BEHALF OF EQUALIZING EDUCATIONAL OPPORTUNITIES FOR MINORITY GROUPS

In order to obtain the broad-scale public understanding and support which are a necessary condition for equalizing educational opportunities for black children and youth, "intelligent, well-informed, and capable leaders" must accept the responsibility for clarifying the issues, illuminating the possibilities, and proposing forthright action." Basically, that leadership has to come from school boards, state departments of education, and superintendents for obvious legal and psychological reasons. Elaborating on the responsibility of educational leadership, John Fischer states

> In a world in which education is essential to virtually every form of social, economic, political, and personal advancement, it is pointless to argue that the schools need only to follow the lead of other segments of society. The schools will perform their functions more effectively, of course, if they enjoy the support of a favorable community climate, but the absence of such a climate can never be considered an adequate excuse for the schools' failure to stand for what is educationally sound and morally defensible. Those charged with the leadership of educational policy and practice accordingly carry a heavy burden of responsibility.[39]

A necessary first step toward achieving the goal of equal educational opportunities for minority groups in Georgia is commitment to this goal on part of the state. Essentially, this would be a commitment to a fully functioning unitary school system. This commitment should be unmistakably evident in terms of both the precepts of the state's education officials and the practices of its education agencies. Thus, the General Assembly and the State Board of Education should issue official statements that are clearly in support of equalizing educational opportunities for minority groups. Further, the Georgia Department of Education should explicitly define the dimensions of the state's concern in terms of definitive action proposals.

• APPOINT A LONG-TERM STUDY COMMISSION TO FORMULATE GOALS, DESIGN PLANS AND GUIDE EFFORTS FOR ACHIEVING EQUALITY OF EDUCATIONAL OPPORTUNITY FOR MINORITY GROUPS

The task of equalizing educational opportunities for minority groups in Georgia demands special attention and effort beyond that which can be expected from existing structures and arrangements in the educational community. Additional human and material resources are needed to provide the direction, range, and intensity of efforts that are required to make significant advances. Hence, a logical second step is that the appropriate state body should appoint a long-term study commission to address itself to this problem. Specifically, the commission should take the following action.

1. State in measurable terms the goals of equalizing educational opportunities of minority groups in Georgia. In addition to the expected results, the target date for their accomplishment should be indicated. Goal statements, for example, should follow a pattern similar to that of the illustrative statements below.

> By 1980, black and white pupils in grades one through 12 in the public schools of Georgia will have the same average level of reading ability.
>
> By 1980, the number of Georgia Negro and white students who graduate from Georgia Institute of Technology will represent equal proportions of their respective age groups in the state's population.

In formulating goals, the commission should seek to consider the widest possible range of conditions that affect equality of educational opportunity for which the state educational system should assume some measure of responsibility. The conditions to which this paper has called attention by no means cover all aspects of inequality of educational opportunity.

2. Evaluate the state's current and projected efforts and resources for achieving the goals.

3. Design a comprehensive statewide plan for accomplishing the goals.

4. Provide direction, support, and monitoring during the implementation of the plan.

The commission should be broadly representative of both the educational community and the larger community. The membership of the commission should include a representative number of minority group persons.

• SHARE LEADERSHIP ROLES WITH MINORITY GROUP MEMBERS

Minority group members should be represented beyond tokenism on all of the state's controlling boards. Immediate moves should be made to insure that new appointees to the now all-white educational policy-making groups—the Georgia Board of Education and the Board of Regents—include a representative number of minority group members.

The Georgia Department of Education should immediately initiate careful study of its policies and practices as these relate to the employment and promotion of blacks at both the professional and non-professional levels. Special effort should be made to determine whether blacks are underemployed and undergraded and to devise corrective compensatory measures if need for them is indicated. And, in order to make certain that minority group members are substantially represented among State Department employees at all levels, the Department should begin recruiting blacks to fill openings and new positions that develop.

• REDIRECT PUBLIC SCHOOL EDUCATION AND TEACHER EDUCATION What we aim to do in teacher education relates to the goals of our schools. What we aim to do in our schools relates to the kind of adult society we want and knowledge about how children learn and grow. Thus, if one of our basic commitments is to a society in which there is equal opportunity and equal rights, those with leadership responsibility for the education of children must consider the following questions.

1. What and how do we teach the child as he progresses through the grades and levels of the school to help him acquire the understanding, skills, and attitudes for effectively promoting equal opportunity and equal rights and justice for all?

2. What and how do we teach teachers so that they acquire the necessary commitment and competence to properly teach the child responsible participation in a democratic society?

With regard to the *what* and *how* of teaching children to promote equality and justice, those responsible for the curriculum of public schools in Georgia should initiate the following action.

1. Eliminate from among approved textbooks and other teaching materials, especially United States history textbooks, those that in words, in pictures, and illustrations present a uniracial, uniethnic, unicultural view of society and replace them with textbooks and teaching materials that reflect a multiracial, multiethnic, and multicultural view. Facilitate the collection, development, and dissemination of supplementary instructional units and materials for areas in which the appropriate new materials cannot be found.

2. Include the appropriate courses of study, materials, and methods for teaching the following.

a. The nature of prejudice: how racial and religious and class prejudices affect those who bear them and those toward whom they are expressed; how prejudices affect the nation's welfare and undermine its credibility as leader among nations of the world.

b. Landmark documents, legislation, and laws that provide the moral and legal bases for equality of opportunity in the United States.

c. The functions of federal courts and agencies; how citizens use these to safeguard and extend equality of opportunity and justice.

d. How local, state, and federal governments affect equal opportunity.

e. The use of the vote and other legitimate techniques for effecting social change.

f. The history and culture of the American Negro.

3. Provide teachers with information and experiences designed to assist them in methods of directing experiential learning.

There are several areas of teacher education that must be given special attention if schools are to have a significant impact on the world in which children now live and the world in which they live in the future. The Georgia Department of Education, Georgia Teacher Education Council, and the colleges and universities in the state should work together to insure that as teacher education programs now focus on "an expanded dimension—quality" they include preservice and inservice experiences designed to accomplish the following objectives.

1. Effectiveness in interracial classrooms.

2. Appreciation and respect for the contributions of minority groups to the growth of the United States.

3. Understanding of the ways in which historical, cultural, sociological, and political factors have influenced experiences of the Negro in the United States.

4. Skill in detecting evidence of racial, class, religious, and ethnic biases in textbooks and other instructional materials.

5. Understanding of the nature and consequences of prejudice and poverty.

6. Self-confrontations with respect to prejudices, ethnocentricisms, stereotyped ideas, and unscientific beliefs about race, poverty, and ethnic origin.

7. Insights, stamina, and effective sets that support readiness to cope with frustrations, disappointment, and failure in working with children whose socio-economic and/or racial background may differ from the teacher's.

In addition, to the more traditional instructional approaches involving reading, listening to lectures given by professors, and discussion of the literature, the teaching of prospective teachers should give increased emphasis to involvement of both the education professor and his students in the following.

1. Opportunities for learning through first-hand experience, including not only observations, but meaningful action-oriented programs in communities.

2. The use of parents, youth, and professional and nonprofessional workers in low income communities as teachers or sources of information.

3. Opportunities for involvement in interracial learning situations.

4. Opportunities for experiential learning that facilitates discovery of personal meanings of teaching and ways of using one's self more effectively as a teacher.

• INCREASE AND EXTEND OPPORTUNITIES FOR HIGHER EDUCATION

Some steps that should be taken to increase and extend opportunities for higher education for members of minority groups are as follows.

INAUGURATE A PLANNED PROGRAM OF RECRUITMENT, FINANCIAL AID, AND COUNSELING FOR RAPIDLY EFFECTING SIGNIFICANT YEARLY INCREASES IN THE ENROLLMENT OF MINORITY GROUP STUDENTS IN ALL PUBLIC INSTITUTIONS OF HIGHER EDUCATION IN THE STATE.

More black students should be enrolled in the traditionally white public institutions. In addition to more enlightened admissions policies with respect to black students and increased provisions for financial aid, special guidance and recruitment efforts are needed if black students are to fully exploit opportunities for higher education that Georgia provides for its residents. One approach that might be considered is a comprehensive state-wide effort aimed at helping the black students and the black communities perceive the traditionally white public colleges and universities in more positive terms. Dimensions of such a program might include the following approaches.

1. Maximum effort on part of the administration, faculties, and student bodies in the traditionally white institutions to insure that black students now enrolled in these institutions and black workers—non-professional and professional—at these institutions are treated fairly and considerately.

2. Meaningful involvement of these institutions in the black community and of the black community in the institutions.

3. The inclusion of a substantial number of black persons among the faculty and staff of these institutions.

4. Campus-based programs designed to involve black high school students in new and exciting learning experiences in an interracial setting.

5. Sustained mutually benefiting inter-institutional activities involving a college and a high school.

PROVIDE MASSIVE FUNDING FOR HIGHER QUALITY PROGRAMS IN PUBLIC COLLEGES THAT LARGELY ENROLL RESIDENTS OF THE STATE WHO HAVE RECEIVED INADEQUATE PREPARATION FOR TYPICAL COLLEGE CURRICULA.

There is need for all of the state's institutions of higher education. And there is a special need for those institutions that devote their resources to the education of students who have a weak academic background, but a strong desire for college study. Institutions of this type, however, require more than the usual amount of funds to operate adequate programs and services. This is even more true in the case of the three institutions that comprise the University of Georgia System (Negro). Huge amounts are needed not only to meet the unusual student needs for instruction, guidance, and financial support, but also to help overcome cumulative institutional deficiencies in facilities, equipment, materials, and other resources, and to support the extensive curriculum changes that are necessary. Some of the more specific needs for which traditionally black colleges and universities will require special financial support for at least 10 years have been pointed out by a special task force of the Southern Regional Education Board's Institute for Higher Educational Opportunity which studied the "Special Financial Needs of Traditionally Negro Colleges," and recently published a report on its findings. The report indicates that special funds will be needed in order to support special guided studies programs for disadvantaged students; augment faculty salaries; reduce teaching loads so faculty members will be able to devote more time to working with students individually; increase funds available for student financial aid; and provide a full range of administrative services, including improved student counseling, sharpened internal management, updating of programs to prepare students for new career opportunities, improved recruiting, and admission and placement services.

ADOPT AN OPEN DOOR ENROLLMENT POLICY IN PUBLIC JUNIOR COLLEGES AND VOCATIONAL-TECHNICAL SCHOOLS.

There should be no admission barriers to the state's junior colleges and its vocational-technical schools. An open-door admissions policy in these institutions would extend opportunity for higher education to minority group youth, many of whom have the desire for post-high school education but have underdeveloped abilities as a result of inferior schooling at the elementary and high school levels. Minority group youth are penalized by admissions tests that do not measure strength of desire and do not take into account differences between the educational opportunities of minority and majority group members.

Some Favorable Conditions

Several developments affecting education in Georgia seem to have special significance for increasing educational opportunities for minority group members. Among these developments are the successful school desegregation that has been demonstrated in some systems, the growing citizen interest in strengthening public education, and the educational matters on the agenda of the 1970 General Assembly.

Successful School Desegregation

In October 1969, school desegregation in Georgia had been effected in 30 school districts, and in 46 other Georgia school districts desegregation was proceeding under an accepted plan. It is generally agreed that success in school desegregation has largely depended upon the quality of education leadership in the district. On this point, Dr. Morrill Hall of the School Desegregation Center at the University of Georgia, who works daily with the state's superintendents in solving problems of school desegregation, said "the single most important factor in this area is the attitude of the superintendents." [40] It has been reported, for example, that Emanual County had "pushed ahead with radical (for southeastern Georgia) desegregation plans while surrounded by other county systems which have done little or nothing." An HEW official spoke glowingly of Carroll County "because of the effort the system has gone to to make for a smooth transition from segregation to integration." [41] The success of these two systems in school desegregation was attributed to the school superintendents.

Some 1,230 adults and students in 13 voluntary school desegregation districts in the Atlanta region were interviewed by members of the staff of the Office of Civil Rights in Spring 1969; it was the consensus of this group that "the primary factors in determining what happens within a desegregated school are the roles of the administrators, principals, and teachers. These roles were viewed as more important than attitudes of the community in the history of the school issue locally. Further, roughly nine out of 10 of the interviewees agreed that "the whole desegregation process was working much better than generally anticipated." [42]

The success of these efforts suggests that with enlightened leadership school communities can be led to accept school desegregation, even under very difficult circumstances.

Growing Interest in Improving Public Education

Many individuals in groups in Georgia are actively promoting public education in several communities throughout the state. New organizations, along with well established ones, are developing constructive solutions to educational problems. Black parents, individually and in groups, are manifesting a new interest in their children's schools.

A spin-off from the 1969 Governor's Conference on Education is a program that has been launched to "carry the message of Georgia's educational crisis to every corner of the state." The Georgia School Board Association is sponsoring a series of conferences in several sections of the State. At each conference some 300-400 persons are expected to discuss topics including "public kindergarten programs, the dropout problem, and adequate school financing."

Among other organizations whose educational activities have been publicized recently are Georgians for Quality Education, Better Schools Atlanta, the Georgia Educational Improvement Council, and the League of Women Voters. Georgians for Quality Education, a statewide organization, was formed in September 1969, "to inspire Georgia taxpayers and politicians to pay for 'better teachers—teaching fewer pupils—at an earlier age.' " and in general to "reform public school systems throughout the state if parents and taxpayers will foot the bill." This group, along with the Georgia Committee of the National Committee for Support of Public Schools, has planned a public "Seminar on Education Ideas to be faced by the 1970 General Assembly." Better Schools Atlanta, a citizen group, has prepared and disseminated a report in 1968 on "inequities in Atlanta's racially segregated and unequal systems of education." The report, in addition to prompting a protracted dialogue between the Better Schools Atlanta and the Atlanta Board of Education, indirectly led to a study of Atlanta Public Schools by the National Education Association Commission on Professional Rights and Responsibilities. In July 1968, the Georgia Educational Improvement Council "developed a work conference on dropouts that brought together Georgia educators, businessmen, and civic leaders," whose efforts culminated in a report, *Reducing School Dropouts*. The Education Committee of the League of Women Voters, in its most recent expression of interest in the state's educational program, made recommendations to a special senate committee studying the Minimum Foundation Program. The continuing efforts of these and other volunteer groups on behalf of public education can be expected to positively influence education in the state.

Previously, attention was called to the fact that black parents have become indignant over one-way integration that has often resulted in closing black schools, firing black principals, and transporting black children from their communities to white communities. Black parents in increasing numbers are also paying close attention to what happens to their children in school. They are becoming increasingly sensitive to ways in which school policies and practices affect their children and are demanding changes in policies and practices that would appear to block the advancement of their children's education. Black parents are offering constructive suggestions for improving schools and they are beginning to hold the school accountable for their children's educational progress. Further, black parents are growing impatient as a result of abortive efforts to establish contact with schools by "going through the proper channels." They are now demanding immediate access to their school officials when their services are needed.

Black parents are increasingly participating in local politics to promote the election of school board members and other officials sympathetic to concerns of the black community and to influence decisions on issues that pertain to their welfare.

Educators have always considered lack of parental concern and participation in the program of the school as a significant negative influence on the child's school achievement. Therefore, the current spread of concern and involvement of black parents should be welcomed. If it is properly nourished this active concern of black parents can become an increasingly valuable resource for the betterment of schools.

The 1970 Georgia General Assembly is expected to consider a number of matters that significantly affect education in the State. The Constitution Revision Commission has already approved proposals that would provide for a more representative Georgia Board of Education and would make the office of state superintendent appointive by the Georgia Board of Education rather than elective by the people. Proposals pertaining to the Minimum Foundation Program, financing of education, scholarship support to private colleges, and other matters are expected to be progressive.

Goals

What conditions will denote the attainment of equal educational opportunities for black children and youth in Georgia? Equal educational opportunities for black children and youth in Georgia will be realized when the following conditions are met.

—When no child is psychologically harmed in schools because of his minority group status

—When the minority group child achieves as much in school as the white child

—When the schooling received by the minority group child has the same potential economic value as that of the white child

—When the representation of minority group members among recipients of higher education is proportionately the same as that of whites.

As far as the black child is concerned, there is no evidence that all of these conditions have ever been met anywhere in the United States. This pervasive and persistent failure of the democratic system, nevertheless, should not be taken as a sign that the system cannot work but rather as a cue for hastening efforts to make certain that it does.

Dr. Wiley S. Bolden, a study director for the Academy for Educational Development, Inc., in New York, is currently serving as director of the Tuskegee Institute Role and Scope Study. Dr. Bolden is also associate director for Research and Evaluation for the Southeastern Education Laboratory in Atlanta. Before going on leave from Clark College in 1967, he served there as Dean of Faculty and Instruction and chairman of the Department of Education and Psychology. Dr. Bolden has worked with the Georgia Department of Vocational Rehabilitation as a psychologist at Alto State Prison. During 1963-64 Dr. Bolden participated in a National Science Foundation Science Faculty Fellowship for postdoctoral study and research with the Committee on Human Development at the University of Chicago. He is a member of the Georgia Department of Education Evaluation Committee for teacher education programs at Albany State College and is an active member of several community service organizations including Better Schools Atlanta and the Metropolitan Atlanta Mental Health Association. He received his Ed.D. degree from Teachers College, Columbia University.

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Structure of Government in Georgia

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THE subject "Structure of Government in Georgia" will be used in a very broad sense in this paper to cover all aspects of government—local, state, and federal. As used here, it comprehends not simply governmental organization in a narrow sense but all aspects of government and political organization, including administration, planning, distribution of functions among various levels of government, taxation, borrowing, political parties, and citizen participation in government.

Although the effort will be made to deal generally with all major aspects of government, concentrated attention will be given to those aspects of government and political organization which would seem to have the most effect on education. It is obvious, of course, that a paper of this scope cannot deal with every aspect of government and political organization; there must be a great deal of selection.

In most cases, the general plan of treatment is to make a brief analysis of present conditions and trends and to project and predict the overall governmental and political structure of the state during the next decade and a half, till 1985.

The first section will deal with general conditions and trends in government—local, state, and federal. This will be followed by a section on local government in Georgia primarily county and municipal governments but giving attention to emerging metropolitan and other forms of area government. The final section will cover state government.

In both the local and the state government sections, consideration will be given to the federal government and the impact of federal programs and activities on the local and state governments of Georgia.

General Conditions and Trends In Government and Political Organization

Governmental Growth

It is hardly necessary to document the tremendous growth which we have had in government. Indicative of this growth is the fact that 6,789 persons were employed by the state government of Georgia in 1940 and that nearly seven times this many persons, 43,844, were employed in 1967. In local government, 12,674 persons were employed in municipal government in Georgia in 1940, compared with 28, 794 persons in 1967. In county government, 7,074 persons were employed in 1940, compared with 16,757 persons in 1967.* It should be stressed that this growth of government has taken place at all levels. It is not just the federal government which has experienced tremendous growth, state governments, cities, and counties are all doing a great deal more.

This growth is also indicated by increases in expenditures. In 1942, total expenditures of the state government of Georgia were about $79 million. By 1967, this had risen to nearly $1 billion. On the local side, municipalities and counties had expenditures of approximately $70 million in 1942, compared with nearly $500 million in 1967.*

Part of this growth of government has been quantitative, brought on by population increases. Some part of it, too, has been qualitative in the sense that governments have done a better job of performing functions which they have long possessed. But a great part of government growth on all levels is due to the broad range of new functions which have been undertaken. The people, through democratic processes, have determined that government should perform various functions rather than private enterprise.

Very often, of course, government was the only agency which could perform new functions. The assumption of new functions by government does not necessarily mean taking these functions away from the private sector.

Much of the growth of governmental functions is a part of the increasing standard of living in this country. There have been radical increases in our governmental standard of living, in the *quality* of services rendered as well as in the scope of services provided and the degree of regulation imposed.

As we look to the future, specifically to 1985 in Georgia, there is every indication that this governmental growth will continue. It is beyond the scope of this paper to enter into detailed analysis of possible reasons for this. Suffice it to say that increasing concentration of populations in urban areas, rapid technological developments, major advance in knowledge, greatly improved communication and transportation, and major social changes will all play a part in making it appear to people that governments should assume even more functions and should do a great deal better job in performing some of their present functions.

Does this mean that we are headed inevitably for a socialist state? Not at all. At the same time that government has been growing, we have seen a tremendous growth in the range of goods and services provided by private enterprise in this country. As a matter of fact, there have been studies which indicate that the federal government is spending a smaller proportion of the gross national product in civil domestic activities than in the 1920s.

There are many implications for education in this continued governmental growth. Obviously there will be a great demand for a good many additional kinds of education, particularly on the adult level. Government itself, as it becomes larger and enters into more complex operations, requires an ever-increasing quantity of adult education on all levels.

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*All figures from reports of the U. S Bureau of the Census, Census of Governments, 1967 and earlier reports.

Perhaps even more important, the general increase in the "governmental standard of living" probably will mean that people will demand in the educational area of government a far higher level of performance. Higher quality will be demanded.

At the same time, additional new functions and better performance of old ones will create tremendous financial demands on governments. Education will probably have to fight much harder to secure an adequate proportion of the scarce funds available.

Distribution of Governmental Functions

There seems to be a widespread popular opinion stimulated by many in the political arena that a great centralization of governmental functions and powers has taken place in this country. The belief seems to be that functions and powers are being taken away from city and county governments by the states and from the states by the federal government. The quick conclusion is drawn that this accelerating centralization will continue until ultimately local and state units of government will have little more than ministerial powers; that is, they will merely carry out directives that come from the federal government.

To say the least, such a mechanistic concept of centralization obfuscates the facts. Actually, it might be best if we stopped thinking in terms of centralization and decentralization.

As noted above, all levels of government are doing more today than they have ever done before. It is quite obvious that the federal government has taken on a great many new functions, some of which were formerly performed entirely by state or local units—for example, education and public welfare. There are many complex reasons for this assumption of powers by the federal government, and an analysis of these is beyond the limits of the present inquiry. A prime factor, of course, has been the superior tax resources of the federal government stretching as they do throughout the length and breadth of the nation.

A major objective of many of the federal programs has been to equalize opportunities and services available to the people of the nation. But few, if any, of these added federal functions have taken anything away from the states or local units. In welfare, for example, there has been a funding on a scale never before provided—a far cry from the alms houses and other limited programs previously provided by local governmental units.

The same is true of health. Most of the health services financed by federal funds were previously not provided at all. Educational programs financed by the federal government are still another example of the complementing of state and local programs.

This is not to say that federal funds have come with no strings attached; certainly standards have been imposed. But, overall, most of these federal programs have resulted in new partnerships among federal, state, and local units of government. The state and local units have been greatly expanded to carry out these federal programs..

A major trend in government in this country during the last few decades has been the tremendous growth of grants-in-aid from the federal government. A large number of these grants have been in terms of specifiic programs—categorical grants. These categorical program grants have often influenced the way in which state and local units of government have spent their own funds.

In the last few years, there has been developing a move toward giving the states and local units greater freedom through block grants. It appears that the federal government will emphasize more and more the block grant principle, attempting to give the states and local units more freedom to establish their own priorities within broad fields of activity; for example, health, education, and criminal justice. The "new federalism" stresses the partnership concept, the idea that governments on all levels in this country are involved in working toward mutually desired objectives.

It should be noted that most of the standards imposed by higher levels of government are desirable standards applauded by all. Ultimately, of course, these standards must have the approval of the people's representatives in Congress, or else they will not stand. They are, then, democratic standards in the ultimate sense, democratically arrived at by the people of this nation.

There appears to be an increasing demand for standards in government to achieve improved quality of services. Not only the federal government but state governments as well appear to be increasingly adopting standards for performance of functions by local units as well as standards for employment of certain key personnel, for example, policemen. Needless to say, states have long established standards for employment of teachers and other critical professional personnel.

In considering the whole question of centralization and decentralization, it might be useful to recall the admonition of the great English statesman, Edmund Burke, who said that what is desirable is centralization of knowledge and decentralization of power. Certainly in this age we should applaud the increasing centralization of knowledge. Indeed very often the lack of power on the local level is due to ignorance, to a lack of knowledge. If from some central source the local unit could have more knowledge, it could more easily exercise power on the local level.

The development of computers and of comprehensive information systems on the state and federal levels should do a great deal to make centralized knowledge more readily available to local units and provide the opportunity for a greater degree of local power. The new federalism would seem to make possible an ever greater degree of centralization of knowledge and decentralization of power, or execution.

In Georgia, it can be predicted that there will be an increasing amount of state participation in federal grants to local units and an increasing number of state grants to local units. The state will also increasingly establish standards of all kinds which local units must live up to—for example, standards as to the kinds of persons who can be employed in various country and municipal offices. It can be predicted that the state will also increasingly impose standards of performance for local units of government in such areas as taxation and financial administration. At the same time, the state government of Georgia will offer a great deal more in the way of technical assistance to local units of government.

The implications for local educational administration are obvious, particularly as regards financial administration including purchasing.

Development of the Strong Executive

A major trend of government for some time in this country has been the development of the ever stronger chief executive on all levels of government. On the national and state levels, the President and most governors achieved strong executive status many years ago. On the local level, increasingly we see the mayor and some form of county executive becoming ever stronger.

A good part of this development has been due to the demand for more effective performance of vital governmental functions. In an earlier day when governments were charged with relatively few tasks, these functions could be rendered with a minimum concentration of executive power. A multi-member board or commission could get the job done. The people of this country, with their fear of concentration of governmental power, seemed to be most happy when power could be deposited in a multi-member body rather than in a single individual. As the jobs of government became more complex and their effective performance more important to the people, the attempt to accomplish through a multiplicity of executives became increasingly difficult.

Increasingly, it has become necessary to establish a single chief executive with strong powers to get the governmental job done effectively. This does not mean that the executive must be autocratic. As a matter of fact, the single executive, clearly responsible to the people (or the people's representatives) is propably much more controllable than officials in a multi-executive system where responsibility is divided and the people often know not whom to blame when things go wrong.

Concomitantly with the development of a strong executive, there has also developed the professional administrator to carry out executive functions. The city manager in council-manager government, the school superintendent, and the hospital administrator represent the new breed of professional administrators. Increasingly in Georgia we are seeing the development of professional executives on the county level as county administrators.

But the development of the professional executive goes much beyond this. In departments of state government and in large departments of local governments in Georgia, there is developing a distinct group of professional administrators with varying levels of responsibility. It can be predicted that this development will continue at an accelerated rate. The job of getting the vital functions of government done is becoming an increasingly complex one, demanding a high degree of executive talent.

We can expect to see increasing demands for professional administrators in functional areas as well as in general governmental administration. Education will find it necessary to exert strong efforts to attract and recruit its share of persons with talents to fulfill the multiplicity of professional administrative positions it will need to fill.

Changing Legislative Bodies

Needless to say, the most dramatic changes taking place in legislative bodies in this country are those brought about by reapportionment, making representation very nearly exactly proportional to population. Not only is this being required in state legislatures and in the United States House of Representatives, it is also being required in city councils and in country governing bodies. Unquestionably, representation exactly proportional to population will be applied increasingly to such local units as elective school boards. It seems unlikely that much weight will be given in the future to representation on any other basis than population. The United States Senate will probably be the major exception.

There is a danger here, however, which concerns many serious students of government: majoritarianism. The founders of our American political system were very fearful of majoritarianism as they had seen it operate on the continent in Europe. The tyrannical majority is indeed a fearful prospect. The guarantees of civil rights are primarily guarantees to minorities, protections of minorities against majority tyranny. Though few would attempt to justify the gross inequities which had developed in representation in state legislative bodies and in the Congressional districts, one still can have legitimate worries about a democracy which is based increasingly on numbers alone.

Certainly some of the most precious values in education might be endangered if submitted to the whims of an uninformed electorate. The answer, of course, is to inform, but this is often a long-term task. A major task for our democracy during the next few years would seem to be the building of safeguards against hasty actions by majorities which they may later regret. The classical illustration of tragic majoritarianism is, of course, popular actions in the wake of the French Revolution.

But representation is not all that has changed in legislative bodies; increasingly, they have developed better staffs and better means of getting at the facts on which policy or legislative decisions must be based. We can expect to see a great deal more of legislative staff development in the future. This will be commented on in more detail in the discussion below of the state legislature.

There has also been developing on the county level in Georgia something more nearly approximating a legislative body in the form of multi-member county commissions. It is to be expected that this trend will continue.

Development of New Kinds of Governmental Planning and Service Units

How geographical areas are organized for government is a fascinating business. Most often we picture government in this nation as consisting of states and cities and counties (towns and townships). Increasingly, we have seen the development of various other kinds of area governmental units.

On the federal level, we have seen the creation of interstate regional agencies: the Appalachian Regional Commission and the Coastal Plains Commission, both of which include considerable portions of Georgia. In the state itself, we have seen develop some 17 area planning and development commissions, embracing nearly every county in Georgia. On a limited basis we have seen the beginnings of metropolitan area services, of metropolitan councils of government, particularly in the Atlanta area.

It should be stressed that none of these regional units is in the true sense a comprehensive governmental unit; they are, in fact planning and service units. But the services which they render, whether planning or otherwise, ever more become important to the persons within their areas; and it can be predicted that the people will increasingly turn to some of them to perform more functions. This will be discussed in greater detail in the section on local government below.

Developments in Governmental Personnel

In the early days of this country, government particularly on the local level was looked on as a very low-level operation. There was a laisez-faire attitude toward government, the less government the better; the feeling was that government was not very important and that perhaps one way to keep it from becoming important was to keep down the quality of persons manning it. The prevailing belief was that almost anybody could fill the jobs of government on the local level. Government jobs, then, became a sort of plunder to be distributed to the victors in a spoils system.

Today the picture is changing rapidly. As more and more vital functions have been given to government, it has become increasingly important to the people that these functions be performed effectively. Government has required an ever larger number of professionals, persons trained to do highly complex jobs. We have seen the development of professionalization at all levels of government. There has been a rapid application of technological developments in government. Research has been initiated on a broad scale in most functional areas. All units and functional areas require larger numbers of professional, scientific, administrative, and technical personnel.

In an earlier day when the spoils system prevailed, there was developed the civil service or the merit system to "keep the rascals out." The emphasis was on making certain that those whom government employed possessed the requisite qualifications for the positions which they filled. The emphasis is totally changed today. Today the major problem is to go out and recruit qualified people and persuade them to accept employment in government. One can predict that increasingly the major effort in personnel administration will be directed toward the positive approach of getting the best possible people into government.

One can predict too that increasingly personnel administration in government as a function of executive management will be placed directly under the executive rather than under an independent merit system board or civil service commission.

People will demand of their governments particularly on the local level a sophistication of management in government which we have not known heretofore, sophistication not for the sake of sophistication, but to achieve a much more effective rendering of governmental services. To achieve this, we can expect to see pay and fringe benefits for governmental personnel becoming more fully equivalent to those received in comparable private employment. It can be predicted too that with comparability in pay and fringe benefits, the public service will have a considerably greater appeal to young persons of this country, with a concomitant increase in prestige and status of public employment.

It can also be predicted that unions of governmental employees will grow stronger and become more important. More and more governmental agencies will find it necessary to deal with their employees through unions.

These personnel developments will of course have direct and forceful effects on public education. One effect will be a demand for a great deal more education for the governmental service, both pre-service and in-service. To secure and maintain the kinds of competent personnel demanded will require education for the public service on a scale hitherto unknown.

The achievement of more comparable pay and fringe benefits should also mean that education will be able to attract a greater proportion of the most competent persons in our society to the educational field. But there will be need for even more intensive recruitment.

It seems rather certain, too, that in the next 15 years that education will become fully unionized and that educational administrators will be forced to deal with employees through their unions.

The Beginning Development of Comprehensive Program Planning

Increasingly, federal grants-in-aid are requiring comprehensive planning as a basis for the grants. Examples are health, urban renewal and housing, justice, water resources and pollution, and transportation. In part, as a response to these federal requirements, we have seen developing at the state level much stronger planning agencies, concerned not just with traditional physical and natural resource planning, but also general, comprehensive program planning.

Concomitantly, these kinds of planning units have been developing also at the local level. A notable example in Georgia are the 17 area planning and development commissions, all of which have taken on comprehensive criminal justice planning and some of which are beginning to consider or engage in comprehensive health planning. Comprehensive governmental planning will be developed increasingly at the city and county governmental levels as well.

It can be predicted that comprehensive program planning is just beginning, that it will grow apace in the years ahead. In the past, planning has meant primarily physical planning, most often in connection with land use. This kind of planning will continue to grow and develop, but it will become more and more subordinate to overall comprehensive program planning.

Education will undoubtedly move to a much greater comprehensiveness in its planning in the future. It will be increasingly necessary to carry out educational planning in close conjunction with planning in all other areas of governmental activity. This comprehensive planning will require a much sharper definition of objectives and a much greater degree of quantification and costing of these objectives.

Programming and Budgeting

One of the most fashionable phrases in government today is "PPBS" (planning, programming, budgeting, systems). Controversy swells around how these administrative processes are to be applied, but one thing is certain, all four processes will be increasingly utilized in government in a comprehensively related manner.

To an even greater extent, planning will be done in terms of the dollars which it will cost to implement the plans. This will mean quantification of objectives. It will also mean programming of these objectives and plans and the phasing of their implementation. It will mean a careful budgeting of these programs and the instruction of a systems approach to achieve the objectives and programs sought.

No matter what the terminology, some form of PPBS seems destined to be here to stay. Increasingly, government will be carried on in accordance with careful program planning and quantifiably costed objectives. The scarcity of financial resources will require ever more refined techniques of decision-making to enable policy-making officials and legislative bodies, as well as the citizenry at large, to make the best possible determinations as to which objectives and which programs shall have priority.

This means that in the years just ahead educational administration must be radically overhauled to implement a wholly new system of program planning and budgeting, utilizing a thoroughgoing systems approach. As noted above, it means that educational objectives must be quantified to an extent that they never have been before. It further means that education must do a better job of justifying its programs and its needs as compared with other urgent and pressing needs of government.

Education may have had an easier time securing its present proportion of public financial resources than it will have in the future; certainly this will be true unless it rapidly adopts sophisticated techniques of planning and program budgeting, utilizing a full-scale systems approach.

Borrowing and Capital Improvements

It is obvious that borrowing and capital improvements will increasingly come only as a result of careful planning and programming. It will be necessary to justify capital improvements in education as against other needs of government to a considerably greater extent than has been true in the past. A much greater degree of quantification will be required and a much more careful justification in terms of program objectives. On the other hand, once the determination is made on a comprehensive basis that educational improvements are needed, it should be much easier to sell them to the public and secure approval of the needed financing. (This implies, however, that government is a wholly rational process, whereas we know that the nonrational often predominates, particularly in political processes such as a bond referendum.)

Changes in Taxation

There has been a rather steady increase in the percentage of personal income taken for tax purposes.* In view of our projection that governmental growth will continue at an accelerated rate, it seems likely that the percentage of personal income taken in tax dollars will also continue to increase.

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*This is not in conflict with the statement made above that the percentage of the national gross product devoted to federal domestic civil programs is less today than several decades ago. Here we are talking about personal income.

Recent developments, however, have indicated that lower income groups might come to have a small proportion of their incomes taken by taxation. Students of taxation have long stressed the regressiveness of much of our taxation, particularly the property tax and sales and excise taxes of various sorts. It has been conclusively demonstrated time after time that persons with lower incomes bear the greatest share of taxation relative to their incomes.

In recent years there has been increaced advocacy of using taxation as a means of establishing a basic minimum income—establishing a guaranteed income level or levying a so-called negative income tax. President Nixon, in his message to Congress on welfare in the summer of 1969 added a strong voice to this advocacy in proposing family maintenance standards.

It seems quite likely that some form of guaranteed minimum income will be established in the years just ahead, or at the least that families will be assured of minimum maintenance payments. It seems likely, too, that lower income persons will be given other kinds of relief in taxation.

One can predict further that taxation will increasingly be used as a means to achieve objectives adopted as socially desirable, objectives other than the mere extraction of revenue. It is probable, for example, that additional tax advantages will be given to parents in connection with costs incurred in educating their children, particularly if this education meets determined public needs in critical occupational categories.

It is probable also that with the growth of comprehensive planning and the concomitant development of programming and budgeting, the system of a separate tax for school purposes will be done away with. Expenditures can hardly be planned and programmed on a priority basis if some forms of revenue are protected by a fixed allocation. It seems probable that in the decade and a half ahead, education may be forced to seek its funds from the same general treasure on the local level as all other governmental functions. If, as seems likely, education becomes financed wholly by the state and federal governments, this will, of course, become an academic question.

Governmental Reporting and Communication

The job done by Georgia governmental units in reporting their activities to the people is at the moment most primitive, with a few notable exceptions. Where there is any reporting at all it is most often rather pedestrian, through printed media. Use of television, radio, electronic devices, exhibits, open houses, etc. is rare. It is likely that this will change considerably in the years ahead. It seems probable that reporting and communicating to the people by governmental units increasingly make use of advanced electronic techniques. If for no other reason, the need to mobilize public opinion behind the programs and objectives of the governmental unit or agency will require increased public support.

Overall, education in Georgia seems to have done a particularly poor job of reporting and communicating to the people. If education is to maintain support and secure its share of scarce public funds, high priority must be given to a maximum utilization of all available techniques of communication and reporting.

Realization of Democratic Ideals

During the last two or three decades, governments in this country have taken fairly major strides toward a greater realization of the democratic ideals on which the nation was founded. Equality in treatment by government and in opportunities which it provides have been most apparent. Moves against segregation with its attendant inequities have been most dramatic. It seems rather certain that all vestiges of segregation, at least as they are enforced by any unit of government, will be wiped out during the next 15 years.

Even more, however, it appears that government will continue to promote vigorously full-scale integration, taking positive steps to achieve this.

Governmental efforts to achieve equality have not been limited to the abolition of segregation or the achievement of integration for racial minorities. There have been significant moves by governments to achieve greater equality for women and for other minority groups — including even youth, though most of the latter probably feel that these have been rather timid moves.

In Georgia we have seen a massive program aimed at achieving greater equalization of assessment for property taxes. We have also moved to promote equal opportunity in education through the Minimum Foundation and other programs. It can be predicted that these efforts to achieve equality, particularly equality of opportunity, such as in education, will be accelerated in the years just ahead.

But the realization of democratic ideals involves more than the ideal of equality. We have also seen a considerable increase in the degree of freedom granted and promoted by government. An example is religious freedom, as demonstrated in the prohibition by the courts of the holding of any kind of religious services in the classroom. Other freedoms in connection with saluting the flag and observing the playing of the national anthem come readily to mind. Freedom of publication and of drama and the movies has also received considerable support from the courts in recent years.

It seems unlikely that the tide will turn significantly in the years just ahead, though some excesses will surely be curbed. As for education, the schools undoubtedly will be required to make more vigorous efforts to achieve full racial integration. They also will be forced to give up entirely on any form of religious observation in the school and on demanding any expression of patriotic feeling toward the flag or the national anthem.

Participation in Government

One can become quite discouraged with the democratic process when he studies voting statistics and notes the lack of citizen participation in elections. The record has been particularly poor in Georgia. To illustrate, of the citizens of voting age in Georgia, it is estimated that only 36.5 percent voted in the 1968 presidential election. One can predict that the extent of voter participation is almost bound to improve in Georgia; it could hardly be worse. The development of a two-party system and better education will probably produce some increase in participation. The improved organization of both parties, which will be discussed below, should also increase participation.

A somewhat philosophical attitude about voter participation can be adopted. It has been propounded by some authorities that democracy is essentially a system which permits persons to vote when they really want to, "when the shoe pinches." If voters are generally satisfied, this theory holds; there is really no need to be concerned when they do not go to the polls and vote. The key to democracy is that they have the opportunity to go if the shoe pinches.

It must be recognized, however, that the lack of participation may often be the result of poor education. One can cherish the hope that as voters become more educated on the issues at stake, their participation will increase. At any rate, it seems safe to predict that there will be considerable increases in voter participation in Georgia.

It can be predicted also that local and somewhat militant elements of the citizenry will become even more active in making their wishes or demands known to those in governmental authority.

There has been some progress during recent years in involving more people in government at the grass roots, the neighborhood level. Involving citizens in positive, participatory action harnesses their energies to achieve agreed-upon objectives. It should be stressed that participatory democracy, as envisaged here, is not conceived merely as participation by poor people.

It seems likely that there will be a considerable increase in participatory democracy in the years ahead. The additional leisure time which many persons have as a result of the shorter work week and labor-saving technological developments should create a considerably greater reservoir of persons with time to spend in such participatory activities.

It would appear that there has been a rather low degree of participation in education by the citizenry of Georgia. To achieve greatly increased involvement will require aggressive and imaginative action on the part of educators. Efforts to secure such involvement might be given a rather high priority, since it can be predicted that if there is not a great deal more involvement, the educational system will be faced with insistent demands by persons who feel that their good and the good of their children are not receiving due consideration.

A major trend in the political processes of Georgia during the last two decades has been the increased participation of blacks. As late as the mid-1940s, there was very little black participation—limited to elections in a few municipalities and sparse voting in general elections. The latter counted for very little at that time since nomination in the Democrat primary, in which blacks had virtually no part, was tantamount to election.

In contrast, in the 1968 presidential election, it has been estimated that more than 340,000 Georgia blacks were registered to vote. There is no way of knowing what percentage of these blacks actually voted, but all indications are that it was at least as high as the percentage of whites.

Looking to the future, it can be predicted that more and more eligible blacks will register and vote. Indeed, with aggressive action among blacks, it is quite possible that the percentage registered to vote will exceed that of whites.

In the transitional phase, it is undoubtedly true that there will be a great deal of block voting by blacks; white candidates will receive very few black votes when opposed by black candidates. In this transitional phase, it is most likely that a number of Georgia counties, those with preponderant black majorities in the population will have all, or nearly all, elective offices filled by blacks.

It is also probable that a number of the central, core cities of the metropolitan areas of Georgia—those where blacks outnumber whites in the population—will elect black candidates to all or virtually all offices. It seems probable, however, that in the long term, as we move more and more toward an integrated society, the color factor will become less dominant in attracting black voters as a block. Experience has indicated that in the long term, voters as a whole tend to choose candidates for reasons other than affinity of race, color, or religion. On the other hand, it is likely that these factors will always play a role in attracting a block of support by persons who will vote on an affinity basis.

It has been freely predicted by many that metropolitan core cities in Georgia, like Atlanta, will be governed largely by black officials due to the impending predominance of blacks in the population. It is possible, of course, that the Georgia General Assembly will forestall this by enacting consolidation legislation creating a white majority. It should be noted, however, that a white majority will not insure the election of white officials. Highly qualified and popular black candidates may be able to achieve victory by securing a large proportion of black votes and a sizeable minority of white votes.

Another possibility is that the courts might prohibit such legislative consolidation on the grounds that it is patently discriminatory, or that it involves denial of the right to elect officers of ones choice, or that the people concerned with consolidation must be given a voice as to whether it is to be effected.

In any event, one can predict that there will be a great many more black governmental officials in Georgia and a great deal more black participation in government in the years to come.*

The great influx of blacks into the political processes of Georgia presents a tremendous challenge to education, the challenge for a massive upgrading to overcome cultural and educational disadvantages so that this vast bulk of new participants may exercise their democratic privileges more effectively and intelligently. There is a tremendous need for adult education, including civic education.

This massive influx will accelerate demands by blacks for a great deal more from the educational system, including education to foster the pride of black children. It is certain, too, that demands will be placed on the educational system for the kind of intensive education which will be required to overcome severe cultural and economic disadvantages.

Political Organization

One of the fascinating political facts in the last few years in Georgia has been the development of a two-party system, the growth of the Republican Party. It is well known, of course, that the Republican candidate received more votes than the Democratic candidate in the last two presidential elections. It is also well known that the Republican candidate for Governor in the 1966 election received more votes than the Democratic candidate, although the latter was elected by the General Assembly in the absence of a majority of all the votes for the Republican candidate. It might also be noted that there are now 26 Republicans in the 195 member State House of Representatives and six Republicans in the 56 member State Senate. Large numbers of elective local offices throughout the state are also held by Republicans. In two of the state's largest cities, Macon and Savannah, the mayors are Republicans. Two of the United States congressmen from the Atlanta metropolitan area are Republicans.

In sum, Republicans have made considerable strides in developing a stronger, more competitive party. They have begun to hold primaries, and their organizational efforts have often been quite sophisticated and effective.

This growth of the Republican Party has stimulated the Democratic Party to organize in a way that it has never done before. The Democratic Party for years discouraged widespread participation, preferring to leave control in the hands of a few at the county and state levels. The competition of the Republican Party, among other things, seems to be stimulating organization to much larger numbers of voters in the Party. It can be predicted that these organizational efforts will grow and be intensified in the years ahead. These organizational efforts should stimulate considerably more voter participation.

It seems probable that the growth of the two-party system in Georgia will lead to more responsible parties, to parties that take stands on issues and are judged much more previously on how well they deliver—on the promises which they make and the performance of the candidates elected.

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*In 1968, Georgia had 14 black members of the General Assembly (2 in the Senate and 12 in the House). There were 5 blacks serving on county commissions and 6 on city councils. There was an undertermined number serving on school boards throughout the state.

The implications for education are that it will become increasingly difficult to keep education out of politics. School board members for example, may be elected, theoretically, on a nonpartisan basis; but as parties become stronger, candidates will become identified as Democrats or Republicans. So often the kind of person who is willing to run for an elected office, be it a school board member or some other office, is the kind of person who has been active in his party; he is something of a political animal.

There will be a necessity for educational leaders and administrators to work harder at persuading party leaders as to the soundness of educational programs—for example, bond issues. This does not mean that such school issues will become narrowly partisan; it does mean that party leaders and governmental officials may not always be the same persons and that it very often will be necessary to convince all of these of the soundness of educational programs and objectives; else they are likely to go down to defeat at the hands of party leaders who have not been informed.

So much for general trends. As we discuss local and state government below, there will be an elaboration on some of these general conditions and trends. In many cases, however, reference will simply be made to what has been said about the particular subject in this section.

Structure of Local Government in Georgia

Georgia is blessed with local governments. She has more county governments (159) than any state in the union save Texas. The latest census of governments found within the state's borders 561 municipalities and more than 300 ad hoc special districts of all sorts.

On the other hand, despite the plethora of local governmental units, we find large areas of suburbia in Georgia metropolises which have little or no governmental organization. As an example, in many areas of DeKalb County (suburban Atlanta) the voter does not reside within an incorporated municipality. Studies of these residents have shown that many of them have very little contact with any local government. They pay their taxes and buy their automobile licenses by mail; they do not serve on juries. Some of them do not even know where the courthouse of their county government is located. Some students of government feel that there is a real need for these suburban "governmental wastelands" to be organized at the least to have some kind of participatory governmental organization.

Structure of County Government in Georgia

One of the most striking developments in Georgia county government in recent years has been the development of an executive and of a legislative body in many counties. Formerly, counties were governed wholly by elected officers, each elected to carry out a specific function. As counties became more important and moved into new areas of activity, such as road building, it became necessary to establish a different kind of official. At first the ordinary exercised miscellaneous executive functions. Increasingly, however, counties in Georgia have turned from the elected ordinary to an elected county commissioner, or a board of commissioners of road and revenues. This trend has continued until in 1969 there were only three counties remaining in the state which did not have county commissioners, either a single commissioner or boards of commissioners.

Most of the larger counties had instituted a multi-member board of county commissioners to serve as something of a county legislative body.* In those counties with single commissioners, there is no legislative body; the commissioner combines both executive and legislative functions in his person. In multi-member commissions, the chairman tends to be something of an executive, although oftentimes an administrator selected by the commission functions more nearly as the executive. This official is most often the clerk of the board.

Lately there has been a considerable move toward employing professional county administrators, particularly in larger counties. Fulton County (Atlanta) has for many years had a county manager form of government. Most other counties have established a much less formal system, simply employing a professional administrator to carry out executive functions of the county.

It can be predicted that more and more counties of the state will move to establish a truer legislative body and a stronger executive. It can be predicted, too, that an increasing number of counties, particularly larger ones, will employ professional career administrators to exercise overall administrative supervision under the direction of the elected commission.

Another interesting development in county government in Georgia has been the reduction in the number of county officers. Most counties of the state have abolished the office of county treasurer and perform this function in other ways. The great bulk of counties have also consolidated the offices of tax collector and tax receiver into the single office of tax commissioner.* A recent development has also made the office of constable in militia districts (Justice of the Peace Courts for small claims) appointive rather than elective. The justices of the peace, who preside over these small claim courts, have been abolished in a number of counties recently in favor of some other kind of small claims court.

A striking development, of course, has been the change of county school superintendents from an elective to an appointive basis in some 25 counties, often accompanied with provision for an elected school board. It is highly likely that many more counties will change to an appointive superintendent and an elective board during the next fifteen years.

It seems safe to predict that there will be a continuation of the trend to elect fewer county officers. More and more they will be appointed by a county executive or legislative body.

An important development in county government recently has been the emergence of the urban county. There is, of course, nothing fixed about the functions which a city or a county can perform. Increasingly, in concentrated population areas, residents of counties have demanded and gotten 10 municipal-type services from their counties. These counties, primarily in metropolitan areas, often come to render a wide range of municipal-type services, such as provision of water and sewerage, collection of garbage, street lights, curbs and gutters, storm sewerage, fire protection, traffic control devices and many others.

Along with what might be called the urban county, we have seen all counties in Georgia assuming new services and expanding others. For example, public health, forestry, welfare, planning and zoning, and industrial development. Counties have also been persuaded by the state and federal governments to assume other functions such as libraries and airports.

The point to be noted here is that

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*Numbers of members on county commissions in 1969 were as follows: single commissioner, 29 counties; three commissioners, 62 counties; four commissioners, 2 counties; five commissioners, 58 counties; more than five commissioners, 5 counties.

*Only 41 counties retain separate offices counties have increasingly assumed new functions and expanded old ones, even in the large number of counties which have been losing population. For large numbers of Georgia citizens, the county remains the strongest and the most viable unit of government under which they live — and this includes some of the state's metropolitan areas.

A striking development in Georgia has been the growth of intergovernmental cooperation among counties of the state. It is probable that the very number of counties in the state has fostered functional consolidation on a multi-county basis, and it is predicted that this will continue and accelerate in the years ahead. Examples of multi-county functional consolidation are health, where most often hospitals and medical centers serve multi-county districts. The same is true of regional libraries and regional forestry units. The construction and operation of airports and ambulance services are examples of other functions which are being rendered on a multi-county basis.

There has been a rather limited multi-county functional consolidation in older and more traditional functions, such as education. But we have seen some beginnings of educational cooperation among counties, and it is predicted that this will grow greatly in the future.

Perhaps the most dramatic development has been the growth of multi-county planning. In 10 years, from 1959-1969, there had developed throughout the state 17 area planning and development commissions, covering virtually all counties in the state. These commissions, consisting of the municipalities as well as the counties of the area, all receive state grants which they are required to match on a local per capita basis.

The functions of these area planning and development commissions seem to be expanding, though not radically. They recently have been given the job of comprehensive criminal justice planning for their areas; and as noted above, some of them have begun to participate in or look toward comprehensive health planning. It seems likely that these area planning and development commissions will in time assume considerably more planning functions as well as some operational functions for the areas they serve.

As will be noted below, there seems little likelihood that we will have many county consolidations in Georgia. It is likely, however, that there will be a great deal of functional consolidation among counties.

There has also been a great increase in city-county cooperation in Georgia. Historically, attempts to consolidate cities and counties in Georgia have failed, as they have nearly everywhere else in the nation. A great deal is made of the fact that certain consolidations have taken place in the South in recent years, namely, Baton Rouge, Miami, Nashville, and Jacksonville. (One might argue that Baton Rouge and Miami are more federations, or confederations, than true consolidations, but this is not an issue at point here.) Much has been made of these consolidations because of the almost universal failure of such efforts elsewhere. Efforts in recent years to consolidate the city and county governments in Macon, Albany, Columbus, Athens, and Brunswick have all failed. There seems little prospect that there will be any outright consolidation of city and county governments in the state in the near future. At most, we would expect very few during the next 15 years.

There will be a steadily increasing amount of functional consolidation and much closer cooperative relationships among cities and counties of the state. Fairly effective metropolitan-wide services will be developed in large metropolitan areas, and councils of governments will be established during the next few years in all of Georgia's metropolitan areas.

Perhaps the most notable city-county

functional consolidation of the state has been in the schools. In 1969, there remained only 36 independent city school systems; the rest had consolidated.

Fulton County and the City of Atlanta had a dramatic consolidation of numerous functions in the early 1950s, the city assuming responsibility for certain functions and the county for others.

There has ben a steady move toward functional consolidation among cities and counties all over the state, including health, libraries (health and libraries are almost universal), tax assessment, tax collection, planning, utilization of computers, and purchasing. In the case of purchasing, the consolidation has extended to schools and hospitals is some counties. There have also been some consolidations of public safety functions — police and fire protection. Joint city-county buildings and other facilities have been erected in a number of counties. It seems certain that there will be great increases in functional consolidation between cities and counties in the future, particularly in such areas as tax assessment and tax collection.

Turning now to county-state relations, it should be noted that the county originally was established primarily as an administrative unit of the state. As demands of the people for governmental services have grown, counties have increasingly performed local governmental services apart from the state. The state still uses the county as a basic unit for carrying out certain functions.

In part because they are administrative units for the state, there has been a closer relationship between the state and the counties than between the state and its municipalities.

The state has attempted to foster functional consolidation. Many of the multi-county services noted above, such as health and libraries, are carried out primarily by the state through multi-county units. A recent statute attempted to encourage functional consolidations by providing that state financial aid might be given to facilitate and foster such consolidation, but this legislation seems to have had virtually no effect.

A major concern in state-county relations is local legislation. Many important matters that affect county government are handled primarily by local legislators on a local courtesy basis in the general assembly. There is no effective home rule for Georgia counties (or municipalities). It is probable that long-time efforts directed toward more effective home rule will prevail in the years just ahead and that counties will achieve a greater degree of independence from the state government.

To complete the examination of county relations, it is clear that there has been an increasing relationship with the federal government in recent years, particularly in the areas of economic development and soil and water conservation projects. In partnership with the state, there has also been considerable growth in a number of federal welfare programs, such as surplus food and food stamp programs. Perhaps most striking of all has been the development of a multiplicity of federal programs with the county school systems, through the Georgia Department of Education.

It seems unlikely that there will be any significant development of independent federal-county relations; rather, it appears that most federal programs will flow through state agencies to the counties.

There has been considerable progress in modernization of county government in the state. What was said above about the lack of professionalism in government applies particularly in Georgia county government. Increasingly the county employee is becoming a professional. Highly qualified persons are being employed to carry on the county's business. This trend will certainly continue at an accelerated pace in the years ahead.

The county has been primarily dependent on the property tax, although some other sources of revenue have been developed, particularly in urban areas. Liquor and beer licenses sometimes afford significant revenue, and some counties are beginning to collect business license fees. Grants from state government have also been a significant source of revenue for many Georgia counties.

Urban counties will undoubtedly continue to seek expansion of their taxing authority, since the property tax alone will hardly support the services which they are rendering. More and more they will also impose charges for services rendered.

It is likely that an even greater proportion of school costs will be borne by the state government; there possibly could be a complete assumption. This will free local property tax revenues to finance other functions of county government.

Financial administration in county government has improved considerably in recent years. A few years ago, a budget was practically unknown in most county governments of the state, and audits were often worth little more than the paper on which they were printed. It is probable that the state will increasingly regulate financial administration of counties and impose standards which they must meet in this administration. The years ahead will also see an introduction in urban county governments of program budgets based on planning and the institution of a sophisticated systems approach.

Borrowing by county governments will increasingly be subjected to the same kinds of considerations as discussed above in connection with program budgeting. It seems probable that the state will assume most, if not all, of the costs of capital improvements for education.

There has been a considerable amount of fragmentation of government on the local level in Georgia. The independence of local school systems is well known. The school board establishes its needs and, within established legal limits, determines what the millage rates shall be for the succeeding years, transmitting this to the Board of County Commissioners, which is obligated to impose the millage rate.

In recent years there have grown up in many counties independent hospital authorities, wholly divorced from the regularly constituted operations of county governments. Similarly, industrial development authorities have been established. At the same time, there has been a mushrooming of ad hoc special units of government throughout the state (sewer districts, water districs, sanitation districts, etc.)

All of these separate and independent units of government create a fragmentation on the local level which makes exercise of overall county government quite difficult. It can be predicted that moves will be made in the future to overcome this fragmentation and secure considerably more unity. This will be particularly true as counties develop more sophisticated program budgeting, based on program planning. It is probable that school boards will lose their independence in establishing millage rates. (Of course, if the state assumed full financing of schools, or virtually all of it, such a power would be meaningless anyway.)

It is probable that counties will more and more require certain administrative functions of school systems to be integrated or closely coordinated, with those of county government in general—such functions as planning, purchasing, and maintenance. As noted previously, the development of comprehensive planning will require that educational planning become much more a part of overall governmental planning.

What is the future of county government in Georgia? The future is probably quite bright for most counties of the state. Despite all the line and cry, it is probable that few, if any, counties will be consolidated. What is more likely is that there will be massive consolidation of functions among counties and between cities and counties. Many county courthouses may become virtual shells which do little more than serve as a courtroom, but the symbol of the courthouse and of the county's independent existence will remain.

The symbol, the non-rational, is highly important in government. If arrangements can be made to provide effective governmental services, few would argue that the symbol should not remain.

Perhaps the chief implication of this for education is the major efforts to achieve radical functional consolidation among county educational systems would probably be quite successful. But great care should be taken to preserve, so far as possible, county identification (the symbols) in such matters as names of schools.

City Government

Much of what has been said already applies to municipal government in the state and will not be repeated in this section. It should be noted, too, that school systems of the state are primarily related to counties and to the state government. Increasingly, however, adult and vocational-technical activities are directly related to municipal governments. Certainly there are some distinctive matters concerning city government in Georgia which should be covered at least briefly.

Georgia is primarily a state of small municipalities. In the 1960 census, there were only six standard metropolitan statistical areas in the state (Albany, Atlanta, Augusta, Columbus, Macon, and Savannah). The population of only 11 of the 561 municipalities exceed 25,000 persons. Actually, the great majority of Georgia municipalities is below 2,500 in population (447) and thus do not qualify as urban areas under the census definition.

As noted previously, there has been a great increase in the functions performed by municipal governments. The large cities of the state have probably had the greatest proportional increase of functions of all units of government.

A striking development in city government in Georgia, as elsewhere, has been the development of the strong executive, the strong mayor, and the professional city manager. There has been quite a growth in council-manager government in Georgia. Today 21 of the 33 cities over 10,000 (nearly 64 percent) have council-manager government. In those cities without council-manager government, the mayor has become a much stronger executive. This is particularly true in the large cities.

There has been the same development of professionalism in administration and of sophisticated administration that has been noted in previous sections of this paper. This has been particularly true in financal administration where larger Georgia municipalities are beginning to move into rather effective program budgeting.

Georgia's municipalities have been quite limited in their sources of taxation. Some have been able to fare rather well on revenues from municipally-owned utilities. Some have done quite well in buying gross receipts or license taxes. The picture, however, is quite uneven, and many municipalities have had to rely almost entirely on the property tax. Some of these municipalities have found themselves in dire straights. Large municipalities are desperately seeking new sources of revenue, but most often find these blocked by state prohibitions. There has been a strong effort to secure major state grants for municipalities, but these have achieved only limited success.

Municipalities of the state will increasingly receive greater latitude from the state in levying taxes to support their operations. It seems likely, too, that there will be considerable increases in grants-in-aid from the federal government that flow throught the state government, particularly to support so-called urban programs in metropolitan areas. It seems unlikely that there will be any significant increase in outright state grants to municipalities. It is more likely that state funds will be coupled with federal grants and distributed to municipalities through these programs.

A major problem of Georgia's cities as in other areas of the nation has been annexation. For the most part, suburban residents have been loathe to vote for annexation to contiguous cities. If annexation continues to depend upon the votes of suburban residents, it is unlikely that it be very successful unless clear-cut economic advantages can be given to suburban residents. Oftentimes, the cities themselves have seemed reluctant to impose the kinds of changes for municipal-type services rendered which would virtually force suburban residents to become a part of them. A solution, of course, would be for the state to establish some form of automatic annexation when certain conditions were satisfied in contiguous areas — such conditions as population density, ability of the city to provide urban services, etc. Although it probably will not go this far, it is likely in the years ahead that the General Assembly will make annexation easier for Georgia municipalities. It seems likely, also, that cities themselves may take more vigorous action to force annexation through imposition of heavier charges for the services they render to suburbanites. It seems unlikely, however, that annexation will significantly solve the basic problems of governing the large metropolitan areas of the state.

As with the counties, municipalities have been faced with the development of autonomous, or virtually autonomous governmental units functioning within their jurisdictions. The same kind of fragmentation noted above in the discussion of county government has developed in the municipalities. It seems likely that the same development will take place here as in counties and that the future will see a pulling together of these fragmented, independent functions of government into the duly constituted overall municipal government.

Turning to intergovernmental relations, city-county relations were discussed in the preceding section. Relations among cities are of primary importance in metropolitan areas. There is a wide range of possibilities for governing large metropolitan areas, varying from loose confederations to highly unified, totally consolidated structures.

It seems likely that most Georgia metropolitan areas will evolve into a loose confederation type government in the years just ahead. This applies particularly in the Atlanta metropolitan area. Certain metropolitan-wide services will be developed, and there will be some regulation on a metropolitan-wide basis. Councils of governments will be formed, but they probably will be rather weak.

Federal policy envisages increased efforts to promote planning and administration on a metropolitan-wide basis, and many of the federal urban programs will encourage and stimulate this. It can be predicted, however, that municipalities and counties comprising metropolitan areas will retain a large measure of independence and separate identity—close cooperation, yes; consolidation, no.

The state government seems destined to move more and more into urban-type programs with their cities, particularly through joint programs with the federal government. The "new federalism" envisages a considerably greater role for the state in federal urban programs. Indeed, there seems no other way to carry out many of these federal programs except through the state governments. Too often, the problem areas covered involve multiple municipalities and counties, and very often these problem areas extend across state boundaries.

States are moving into such new areas as housing and rapid transit. The future will see a great deal more of this in Georgia. The solution of metropolitan problems becomes a state-wide concern, particularly in view of the fact that such an increasingly large proportion of the state's citizens live in these areas. It can be foreseen too that the state will give an increasing amount of technical assistance to her municipalities in a great many areas.

In terms of numbers, the great proportion of Georgia's children will be educated in her municipalities. Indeed, in the years ahead, it is probable that a majority of the children will come to live in metropolitan areas. The quality of government in these areas will have a considerable effect on the education conducted therein.

There is a great need for education on city and county government, both in the schools and on the adult level. A major challenge to the educational system is to develop an effective educational program for Georgia citizens concerning their local government. These are the governments that are the closest to the people; it is here that democracy, the democratic process, takes place.

Structure of State Government

In many ways state government in Georgia is of more concern to public education than local government since such a great proportion of educational costs in Georgia are financed by the state. It is at the state level that public education must compete for a large proportion of its funding as against other demands of state government. It is crucially important, therefore, that there be a clear understanding by educators of the present and predictable future of this government..

Constitutional Revision

It is crystal clear to nearly everyone that the Georgia Constitution is thoroughly outmoded and badly in need of major revision. But revising the fundamental law of a state is a difficult task, since it poses threats to the security of many persons and agencies. Wholesale revision of an entire constitution at one time may be impossible in Georgia. If the 1970 effort of complete revision fails, it is likely that the state will move toward piecemeal revision, submitting one or a small number of revised articles at a time to the people for ratification. Such a revision by installment does face as much opposition for one or a few articles as when a total constitution is presented.

In any event, it is predicted that Georgia will achieve a new constitution during the years just ahead. It is unlikely that this constitution will achieve some of the objectives which many reformers seek, for example real brevity and concern only with fundamental matters. It is probable, however, that many improvements will be made.

It seems highly likely that this constitution will reduce the number of popularly elected state officials, and there is a high probably that the State School Superintendent will become an appointed official of the State Board of Education. Nearly every recent proposed constitutional revision included this change.

It is almost certain that extensive sections of the present Constitution which are clearly statutory in nature will be eliminated. This includes long sections of the present Constitution on certain educational matters such as loans and scholarships.

It seems probable, too, that the revision will move the state toward direct obligation borrowing of funds and at least an eventual abandonment of the authority technique of borrowing.

Functions of State Government

It is rather clear that the state government of Georgia will be required to undertake a number of additional functions and so considerably expand others, particularly the so-called urban functions. The state will find itself increasingly involved in such functions as housing, mass transit, airport development, anti-poverty programs, the arts, and esthetic and environmental regulation.

The state will find it necessary to expand greatly and to improve its activities in the field of health, particularly environmental and mental health. The state government will also become even more heavily involved in welfare programs, including income maintenance and programs to combat hunger and malnutrition. Natural resource development and conservation will become ever more important as will the development of vast new facilities and programs for recreation. There will be tremendous demands for education, including manpower development and retraining and massive adult education. The state will become much more heavily involved in law enforcement on the local level.

Many of these functions will be financed in good part by the federal government. Increasily, the states and the federal government will enter into partnership in carrying out governmental functions. But the state government will be given considerably more leeway than it has had in the past in broad functional areas. The day of the strict categoric grant-in-aid is probably very close to an end.

This new partnership with the federal government will often require that the state government enter into cooperative programs with local units. The federal grants will establish standards and impose conditions on the kinds of local programs which must be conducted. There will be requirements that funds be spent in appropriate places, for example, in metropolitan areas.

As to relationships with their local units, it seems certain that the state government will increasingly assume responsibility for maintaining certain services at the same level throughout the state. A prime example is education. Increasingly, it would appear, the state will assume responsibility for providing every child in the state with substantially equal opportunity to secure the same quality education. This may well lead to assumption by the state of all, or virtually all, of the costs of education. It is probable, however, that local participation and decision-making will be retained at about the same degree as at present.

The state is also likely to assume even greater responsibility for health activities throughout the state. And, as noted above, it can be predicted that it will become more heavily involved in public safety to assure greater effectiveness in police and fire protection.

More and more, the state government of Georgia will be expected to establish standards which must be met by local units. This will include standards for the employment of personnel (such as policemen, firemen, tax assessors, finance officers). The state government will also impose standards of performance for functions in such areas as public finance, and taxation.

At the same time, it can be expected that the state government will greatly increase its programs of technical assistance to local units of government. This will include assistance in such areas of tax assessing, law enforcement, fire protection, finance administration, management information systems, and personnel administration.

Structure of the Executive Branch of Georgia State Government

The Georgia state government is made up of more than 150 separate departments, agencies, boards, commissions, authorities, etc. Often these agencies function independently of the Governor or any other executive official.

There are nine elected single officials in state government (the governor, lieutenant governor, and seven so-called statehouse officers [secretary of state, treasurer, attorney general, comptroller general, state superintendent of schools, commissioner of agriculture, commissioner of labor]). Additionally, the people of the state elect a five-member Public Service Commission (utility regulation) and 16 members of the appellate courts (seven Supreme Court justices and nine judges of the Court of Appeals).

A major problem area in Georgia state government is the long ballot. In a typical gubernatorial election, the voter is asked to choose a minimum of 15 state officials (nine statehouse officers, one member of the Public Service Commission, two justices of the Supreme Court, and three judges of the Court of Appeals). Since there very often will be vacancies on the Public Service Commission and the appellate courts, the number will most often exceed 15. All of these offices, along with legislators to be chosen for House and the Senate, pose for the voter a very large number of choices. It is difficult for the voter to learn enough about so many different candidates to make intelligent decisions. Having to vote for so many offices discourages participation. It is quite likely that there will be a reducation in the number of elective state officers in the years just ahead.

Another problem area in state government is the few departments over which the governor has control. Actually there are only four major departments headed by officers who are appointed by and report directly to the Governor (Revenue, Family and Children Services, Parks, and Public Defense). The other four which report directly to him are quite small (Purchases State Library Mines, Mining and Geology and Banking). All of the other major departments of state government are headed by a board of commissioners, most of which employ their own executive official.

There are few, if any, other states which have more agencies headed by boards or commissions than Georgia. It has been said that Georgia is the most "boarded up" state government in the nation. While it is true that the Governor may influence the choice of the executive chosen by the board to administer a department, in many cases he has very little say in the selection.

The Governor of Georgia as chief executive is considerably hampered in exercising executive leadership and management by the large number of independently elected officers and by the small number of agencies reporting directly to him. He can exercise considerable control by the influence of his office and, primarily, through his budgetary powers. But the state government of Georgia, like most state governments, has become too large and too complex to be controlled by a single executive without major assistance.

Efforts have been made in Georgia as well as throughout the nation to achieve the consolidation of similar functions now located in different agencies into single departments. As an example, the effort has been made repeatedly in Georgia to bring together various natural resource functions into a single department of natural resources (including forestry; game and fish; parks; mines, mining and geology; and water resources). Efforts have also been made to create a unified department of criminal justice, including corrections, probation and parole, and juvenile correctional activities. There have also been some efforts to group all administrative activities into a Department of Administration and to pull together health, education, and welfare into a single agency.

These consolidation efforts have been notably unsuccessful in Georgia and throughout the nation. Each functional department is intensely interested in maintaining independence and is fearful of losing status as well as support if it is merged with other departments.

But the need remains to achieve better executive coordination and control in state government. Some states are moving to create an additional executive level to aid the governor in discharging his executive responsibilities. Instead of consolidating departments, agencies with related functions are grouped in broad functional areas, each under an executive directly responsible to the governor. (The title often used for this executive is "Secretary.") Massachusetts, for example, is attempting to group all departments under nine secretaries. It will do this over a period of years, working slowly toward achieving the most satisfactory grouping of functional areas. California is attempting to group its functions under a smaller number of these top executives. This type of organization in state government is sometimes designated the cabinet system, with the secretaries forming the cabinet.

Organizing the executive function in this manner is, of course, quite well known in the private corporate field, where these executives would be the equivalent of the vice-presidential level. Many universities have also created an executive layer of this sort, using vice-presidents to coordinate broad areas of university activity.

These secretaries would be delegated budgetary and personnel powers by the governor. They would speak in his name and, in effect, would serve as "vice governors." It can be predicted that some such grouping of executive functions will take place in Georgia state government during the next few years. It is probable that public education will be grouped with higher education, with health, with welfare, and with other similar activities in numerous smaller agencies. It is possible that corrections, probation, and parole will also be included in this grouping.

At any rate, education probably can expected to be grouped with other related functions of state government. This grouping should produce better cooperation and coordination among education and closely related functions.

It is also probable that there will be a considerable reduction in the number of boards and commissions administering departments of state government. More and more of these boards and commissions will become advisory bodies to single executive heads. It seems probable, however, that public education, as well as higher education, will retain its strong board during at least the next decade and a half.

It can be predicted that there will be a consolidation of retirement systems administered by the state government. A unitary state retirement system has been strongly advocated by experts in the field, and its numerous advantages for the state as well as for recipients would seem to make its adoption probable during the next few years.

Administrative Developments in Georgia State Government

Most of the projected administrative developments in Georgia state government have been dealt with previously; therefore, little more need be done here than make reference to previous sections.

Development of PPBS (program, planning, budgeting, systems) was discussed above. It is certain that there will be a massive development of planning and programming in state government, placing on public education the requirement to plan and program on a scale never before contemplated. Development of this planning and programming and of the systems approach will give to the policy-making arms of state government refined tools for decision-making among competing programs. As noted previously, capital improvements will be a major component of this planning and decision-making.

It can be expected that state government will move away from the negative concept of personnel administration, adopting a positive program of recruitment and personnel development. The personnal function will become more a function of executive management at all levels. As noted previously, it seems highly likely that pay and fringe benefits will become equalized with comparable private employment, enabling state government to compete for the best personnel. As also noted previously, there will be great demands for additional education of personnel employed in state government.

Management information systems will be developed on a large scale throughout the state government and will play an increasingly important role in policy decisions. This will be possible because of major technological developments in computers and computer applications in state government in the years ahead.

Due to improvements in personnel and to technological developments, state government will come to be a great deal more efficient and economical than at present. The public will demand a higher degree of efficiency and economy.

Debt

It can be expected that the state government will continue to borrow at about the same percentage of income as at present. Due to the increased demands for capital facilities in other areas, education may find it necessary to fight much harder to retain its present porportion of capital improvements funds. It seems probable that the educational percentage will decrease as other functions become better able to present their cases for capital improvement funds. At any rate, education must exert much greater efforts to justify its capital improvement needs.

Taxation by State Government

The state will continue to place heavy reliance on the sales tax, but it can be expected that there will be changes to decrease its regressiveness. It can be predicted that there will be increases in the rate of state income taxation, as well as increases in most other state taxes, particularly on gifts and estates. The state will probably join with the federal government in some form of income maintenance for persons below the poverty line. It can be expected that there will be continuing large increases in intergovernmental revenues from the federal government.

Grants to Local Units

As noted above, with the aid of federal grants, the state will provide its proportion of matching funds and pass these funds along in the form of grants to local units to carry out broad functions, particularly those designed to meet critical urban problems such as rapid transit and metropolitan airport development and operation.

Structure of the Georgia Legislature

It is predicted that the Georgia House of Representatives will be reduced during the next decade and a half to 125 members and the State Senate to 40. (The present size: House of Representatives, 195; Senate, 56.) It is probably impossible to predict what will happen as regards the terms of state senators and representatives. With persistent efforts, terms might be increased to four years for both senators and representatives, but it seems most likely that Georgia will follow the example of most other states and establish the term of senators at four years and maintain that of representatives at two years.

It would appear that the following developments will occur in the composition of the state legislature. Due to increased pay and fringe benefits, the educational level and professional experience of legislators will be greater. There will be an increasing percentage of Republicans, of blacks, and of women serving in the General Assembly.

An increasingly large percentage of members will come from urban and from metropolitan areas of the state. It should be emphasized, however, that this does not mean there will be radical changes in orientation or voting. Reapportionment has already demonstrated not only in Georgia but throughout the nation that increased representation from urban areas may result in an increase of "conservative" representation from suburban areas. It does seem probable, however, that the greater level of education which can be predicted in the state legislature will result in more attention to some crucial problems facing the state, including the so-called urban problems.

Without question, Georgia legislators will achieve much more adequate facilities either through a new and separate legislative building or by acquiring a great deal more additional space.

A major change in the legislature will be the employment of a great many more staff personnel. The General Assembly will develop its own independent budget review staff and possibly also a planning review staff.

The implications for public education are that this staff development will give the legislature a much greater capability of reviewing educational programs. Educational committees of the two houses will no doubt have expert staffs and these staff specialists will provide a means for legislative study of education not hitherto available. This will present a fine opportunity for close working relationships between administrative personnel in public education and these staff specialists. Worthwhile educational programs should receive much better consideration by the legislative branch.

The Georgia General Assembly will also develop a comprehensive legislative information system during the next 15 years, involving the extensive use of computers. This will give to the General Assembly a much better capacity for securing information quickly to enable it to make better decisions.

Structure of the Judiciary

There are strong movements afoot to establish a unified court system in Georgia, a system which will provide for administration of all state courts under the supervision of the Chief Justice.

The state can expect to see also the development of a much stronger system of juvenile courts. These courts will come to utilize the resources of the community to a much greater extent than at present, utilizing community-based resources and working closely with the local school system.

Developments of Selected State Programs and Their Implications For Education

WELFARE. In the years ahead, the state will enter into programs with the federal government to establish minimum economic standards, including some form of minimum income maintenance. The state, with the federal government, will also do a great deal more to combat hunger and malnutrition, working closely with the school system. State welfare agencies will work much more closely with the school system in the years to come in programs to overcome cultural disadvantages. A broad development of early childhood education programs will bring welfare and education much closer together in planning and executing these programs.

REHABILITATION. There will be a considerable expansion in governmental rehabilitation efforts going far beyond mere vocational rehabilitation. Society will become ever more interested in making certain that every disabled person has maximum opportunity for development. Education, of course, will play a major role in these endeavors.

CORRECTIONS. The whole correctional field will undergo a major revolution in the next few years, spurred on by massive sums which will be available from the federal government under the new criminal justice program. Rehabilitation will become, in fact, the major goal. Education will play a much greater role in these rehabilitation efforts. This means that educational programs will be greatly expanded in penal institutions as well as with probationers and parolees. Education will also be much more closely tied in with correctional efforts in the juvenile field.

RECREATION. There will be a vast expansion in state recreational facilities and programs. With shorter work weeks and labor-saving technological advances, large numbers of the state's citizens will have a great deal more time for leisure. The challenge to education is to educate for more effective and enjoyable utilization of leisure time.

MANPOWER DEVELOPMENT AND TRAINING. Government will face an ever-expanding need for training and retaining of persons to meet the changing needs of the economy. The implications for education are obvious.

HOUSING. It can be expected that the state government will become more and more involved, along with the federal government, in housing activities. Within the next decade or so, it can be expected that decent housing will come to be looked on as a "right," something which every person has a right to expect. The day will come when every school child will live in a decent house.

HEALTH. Much more attention will be given to all phases of health. Good health care has already come to be considered a right. There will be tremendous expansions in comprehensive health planning, planning for the total health of the community. Schools will become much more involved in health care and in health education. Superior school health services will come to be expected as the rule rather than the exception.

PUBLIC SAFETY. Within the decade, the schools will be required to conduct driver training on a universal basis. Criminal justice programs, largely financed by federal funds, will make law enforcement and correctional fields much more attractive to high school graduates. The schools will also be encouraged and stimulated to adopt intensive training units in criminal justice.

TRANSPORTATION. The state, along with the federal government, will help bring about major improvements in all kinds of transportation. It seems probable that there may be major breakthroughs in technology to change radically the patterns by which land movement is accomplished. Such revolutionary developments might have major implications for education, particularly as to locations of various kinds of programs. As an example, it might become quite feasible to transport the various groups of exceptional children long distances each day to participate in specialized educational activities.

State-Federal Relations

This subject has been touched on a number of times throughout this paper. No more need be done here than to make brief summary statements on major points previously covered.

The "new federalism" will produce a real partnership among the federal, state, and local units of government of Georgia. We will see more and more block grants giving the state and her localities a great deal more freedom to set their own priorities within broad program areas.

There will be large increases in the amounts of federal funds available in such areas as education, health, welfare, criminal justice, transportation, housing, and many others.

There will be a continuing development of federal-state organizations such as the Appalachian and Coastal Plains Commissions and their agencies, which will continue to have education as a major component of their programs.

The federal government will exert ever more pressure on the states to bring about a greater degree of equality of opportunity for all citizens. There will be major and intensified efforts to establish in fact a more nearly nondiscriminatory society. Education will be encouraged, probably required, to take positive steps to educate against discrimination.

Obviously, the statement of predictions and projections in such brief and dogmatic fashion as done in this section is dangerous business. No one can see clearly into the future. It is rather certain that some of these projections and prediction will not eventuate. But they are "projections"; present conditions and trends indicate that this is what can be expected in the decade and a half to come.

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The Political Culture of Georgia

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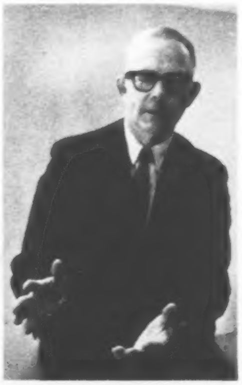

POLITICAL culture in Georgia is the product of intrusion of the technological society into an environment dominated by agrarian practices and styles of leadership. The dominant style of agrarian leadership is the practice of control politics through a series of procedural and legal means. The problems to be confronted between 1969 and 1985 stem from the fact that technology creates an entirely new political milieu in which planning for meeting the demands for service by the public will dominate. The parochial nature of the agrarian environment and the low level of participation generated by the politics of agrarianism create an unstable base on which to build the participatory/service society of the new age.

The major needs over the next decades are consistent with but not necessarily limited to the creation of an environment conducive to the development of a participant culture; the stimulation of planning as the end of politics rather than control; the development of a resocialization mechanism in order to induct into the system those who have been systematically excluded through limitations in the existing process of socialization.

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CULTURE as an approach to the study of political systems is directed toward the analysis of the orientations and perceptions of the people who create, modify, and absorb the effects of the ever changing environment of political development. While culture has been variously defined, it is useful to consider it as the sum of the life styles of a population which set the scope and direction of political action and are considered to be fundamental enough to its perpetuation to be passed on through the institutions and processes of the system.

Sorted out, these life styles encompass social, economic, and political attributes linked together in such a manner as to specify the range of acceptable public policy alternatives which give force and effect to a particular system. An ideal linkage would be one in which social, economic, and political variables were interdependent so that change in any one would cause conforming change in the others. This ideal is rarely attained in any culture for the environment reacts with these variables in a variety of ways and with differing degrees of intensity.

In seeking to come to grips with the knotty problem of ascertaining the direction of change likely to result from a particular mix of environment and life styles, in attempting to maximize the influence one can have over the outcome of change in a culture and in giving one a perspective from which to evaluate the configuration of the particular linkage in any one culture, it is useful to employ traditional conceptual approaches as well as the tools of analysis associated with contemporary social science research.

In terms of the former, the political culture of Georgia will be treated from the standpoint of developmental analysis. This technique will put the present environment into perspective and provide a means for isolating the environmental elements which combine with the perceptual framework of the people. With respect to the latter, the economic, social, and political variables associated with the orientations and perceptions of Georgians will be analyzed through the use of survey research data obtained from recent studies of the Georgia public.

Put in different terms, the political culture of Georgia will be analyzed from the way in which Georgians are located within their environment with respect to the factors of time, place, and other people. Characteristics of this culture will be detailed by examining influences which cause a variety of perspectives to result from the life circumstances of each individual. Effects of this culture will be displayed by looking at the ways in which Georgians relate to the formal structures of government, to the law, customs, and constitutions undergirding these structures and to the party and non-party influences in the political system.

Environmental Factors in Political Culture

Political culture in Georgia represents political association on the state level which is influenced by and directly related to political association patterns coming out of the process of nation building through which the United States has been going for nearly 200 years. Specific influences operative at a given period of time represent patterns of continuing events which range from those originating in the early periods of development to those of contemporary origin. Selecting out intervals from these recurring trends in political association, it is possible to benchmark three distinct types of environment, the agrarian, the industrial, and the technological.

The basic assumption in this paper is that the dominant environmental factors in Georgia are those associated with the agrarian pattern of development and that environmental changes reflect the clash between this setting and the continuing inputs of the technological society. In this paper, emphasis will be on the configuration of the agrarian level and the developmental aspects caused by this technological intrusion.

The classic description of the agrarian environment was offered by James Madison in *The Federalist Papers.* Madison saw conflict as the basic feature of a society in which there was a variety of class levels and a disproportionate distribution of property. For Madison, the purpose of the Constitution was to effect control over the plural society so as to minimize the ability of factions to interfere with the unitary authority imposed by the central government under the federal system. In his view the regulation of these various and interfering interests formed the principal task of legislators.

The Federalist Party principles which grew out of this Madisonian philosophy placed the social and economic elite in the role of the authoritative decision-maker without dependence on the mass for the source of power. The relationship between the elite and the mass was one of "virtual" representation in that the elite would do what was best for the mass and legislate on their behalf without being dependent on them or subject to a veto from them. The success of legislation was in the degree to which it prevented the mass from coming into conflict with the elite or forming communities of power strong enough to contest the rule of the elite.

Robert McIver has characterized this agrarian level as a period in which equilibrium among the plural social forces is maintained by adherence to the "Rule of Procedure." By this is meant that the cultural requisite is to accept the outcome of public decision as representing the best interest of the system and to rely on procedural methods to obtain an alternate outcome or seek relief when an outcome impinges on private rights. Such a course places maximum responsibility on the decision-makers to determine the needs and goals of the system from the perspective of their own competence in interpreting the rules rather than as a response to the collective pressures of the general public. Consequently, a high level of deference toward constituted authority is encouraged and promoted as the surest way to minimize conflict between those who exercise authority and those over whom it is exercised.

The definition and character of the American political culture developed under the influence of this agrarian environment. It is important to note that the political strategy of the Federalists was based on the principle of a separation of powers in which one set of elite, independent from other sets, would effect control in a political atmosphere free from the need to depend on popular support for tenure of office. The failure of this strategy was marked by the defection of elites from the Federalist government and the consequent rise of an opposition "party" as the only way to contest for power without courting the destruction of the system or the acquisition of equal power among those whose roots were in the mass.

What this meant was that there was no systematic confrontation between the elite and the mass over the right to hold public office. Effectively, the mass was limited to filling cadre positions. In the contests for these positions, factions, cliques, families, juntos and caucuses developed among themselves a high level of political conflict but neither threatened the role of the elite nor involved them directly in this "lower" form of political competition.

The political style of the parties developed from this in that as the out-party, the newly formed Democratic Party inevitably appealed to those who were attempting to come to power—the mass—while the Federalists steadfastly based the security of their political position on a coalition of those who were already powerful as a result of prior accomplishment in the socio-economic system. There was little enthusiasm among the Federalists for the argument that politics was a means to obtain socio-economic status.

This description of the Federalist-Democrat differences goes into some detail because knowledge of this is critical to the understanding of the nature of political organization within the Southern environment as the transition from the agrarian to the industrial society took place on the national level. The consequence of the defeat of the Confederacy was to place the South out of the mainstream of industrial development in the post-civil war period and thereby prolong the dominance of the agrarian environment into the post-industrial or technological age.

For Georgia as for the rest of the

South the effect was to develop a hybrid Democratic Party unlike that which dominated among the industrial, urban populations of the North. Earlier, the Federalist party had evolved into the Whigs and some minor political factions while maintaining most of the Federalist principles intact. The split in the Whig party led to the development of the Republican party in the North and a no-party coalition in the South. The unwillingness of the industrial leaders to carry the emerging industrial state to the South and the barrier between the Republicans and the Southern Whigs caused by the secession and slavery issues created for the South a fusion of the Democratic mass and the Whig elite under the banner of the Democratic Party.

The modern Republican party is the product of the industrial state as the Federalist party was the product of the agrarian. The primary and the continuing role of the Democrat party is a transitional one in that its power is based on an appeal to those who are not fully socialized in the system and need the added assistance of political supports to move from one level of political competence to another. The failure of the industrial state to intrude on the agrarian South and the decision of the Whig elite/Democratic mass not to give support to the process of socializing the Negro left as the sole alternative the development of a one-party structure under the name of Democratic for functional political requirements while living within the limiting framework of Federalist principles.

The fusion of two such opposite forces could be prolonged only as long as none of the conditions creating the fusion changed. In effect this meant that the forces of transition would have to be imposed on the system for there was no basis for a self-generating industrial system or for the bringing of the Negro into a position of equality with the white mass on social, economic, or political levels.

The net result was that Southern culture neither benefited from the refining influences of the industrial level nor was required to work out solutions for the problems generated by minority politics, urban congestion, labor unrest, and similar problems. Denied an active role in the progressive changes wrought by advancing industrialism, the Southern sector of the Democratic Party was for all intents and purposes a third party in effective coalition with the national party at the central government level but quite independent in terms of base of power and philosophy at the local level.

The success of the Republican Party at the national level from 1860 to 1932 was based on the absence of the South from the industrial revolution and the split of its economic opponents in the East and Midwest over social issues. The coalition of the newly rising middle class and the traditional propertied classes in the Republican Party was continually strengthened as they reached common agreement on the economic and social concepts on which the party would be based. The Republican Party was stronger internally than any combination of forces outside the party which might threaten the coalition. At the same time, the differences among the various components of the Democratic Party, North, South, Midwest or elsewhere, made conflict among these groups more important than conflict with the Republican Party and encouraged the strengthening of the local party structure at the expense of a strong national party.

These conditions were ideal for the independent development of the Southern Democratic Party and the course taken locked the party in the mold of the economic, social, and political environment derived from the agrarian origin. For the non-South, the transition from the agrarian to the industrial level took place once the consolidation of the economic, social, and political forces reached a point of alignment sufficiently viable enough to permit routine change and adjustment without creating a threat to the basic structure of the society.

Party structure and function in the

South were distinct political phenomena in that there was no means by which the function of integrating the mass with the system could be routinely effected and there was no self-generating alignment between the elite who had power and the middle class whose role derived from serving the interests of the elite. The one-party South evolved a Democratic party which was more Federalist than Democratic in political style. It did not share with the national party the view that it could or should be a means for the continuing socialization of the out-groups.

What, then, were the characteristics of the political environment in the South derived from this agrarian mold?

Parochialism

Parochialism is the most obvious. More than symbolizing an in-turning of attention to familiar, traditional cues, parochialism implies a tendency to interpret and evaluate all political activity from the perspective of the norms operating at the local level. The seedbed of political culture in an agragrian environment is the local court house. Here the elites seek ways to perpetuate power without entering into contests with the mass while the newly enfranchised are exposed to the rapid political socialization process of local politics. While the responsibility for selecting national political leadership has a special impact on this socialization process, it is more likely to cause one to judge national leadership requirements from the norms of local experience than to generate conflicting attitudes.

In consequence, the function of the national government is conceived as being guided by the same principles guiding local government. Government at any level is considered as fulfilling its basic obligation to the public when it is able to contain the inherent conflict among groups by simply preventing the confrontation between the haves and the have-nots. Patronage and privilege is dispensed commensurate with the contribution one is able to make to the continuity of control politics rather than on the basis of serving welfare needs.

Parochialism discourages public effort to augment change in existing patterns of social, economic, and political alignments as progress is considered to be the product of a linear, evolutionary process. The function of the agents of socialization—the family, the church, the school, the political party,—is to assure conformity with and continuity in the customs, mores, laws, and procedures developed over time and venerated more for their antiquity than their relevance.

For those whose attitudes are developed in a parochial setting, there is a definite limit placed on the level of expectation with regard to the kinds of output one can expect from government. Accustomed to viewing the function of government in terms of control, one is led to look with suspicion on attempts by authorities to extend the range of services beyond the minimum required for transportation and sanitary needs. In the same vein, a strongly ingrained belief in self-sufficiency precludes looking to government as a proper source for obtaining the necessities of life when one is unable to secure them through one's own work. Individual or group demands which are inconsistent with the cultural expectations are considered radical. The accepted response to such demands is to control by various legal and procedural means the extent to which one is permitted to make such demands more often than to attempt to determine if a legitimate need exists which can be equitably settled by government intervention.

What occurs here is a normal and functional response in a political environment wherein the dominant mode of political action is that of control. Demands for new controls occur when one faces a request which is outside the range of experience of the decision-makers and not amenable to control in routine, patterned ways. What is sought is not additional information as a step toward understanding the unfamiliar, but a means to isolate, to restrict and, hopefully, to reorder it in terms and in ways that are in keeping with long established patterns and familiar procedures.

This is most likely to occur when influences with an origin outside the system are extended into the system. Such influences are usually accepted when control over their extent and power remains in the hands of local authority. This desire to maintain control over potentially disruptive influences is often couched in terms of "states rights" or "local rights" in order to evoke a sense of legalism out of an action which is essentially designed to limit the extent to which external power can be imposed over the arbitrary power of local elites.

This in turn creates conflicting pressures for individuals who perceive improvement in their own life style if these new influences can become operative but who lack the necessary channels or experience for carrying their desires to the decision-makers. What happens in such a context is that the articulation of demands for change or for the reallocation of resources on the purely local level must move out of the procedural channels of that level and align with similar demands elsewhere in seeking a surrogate at some other level. The desire to maintain an equilibruim of forces at the local level which functions to maintain the parochial spirit sets up, then, an inherent conflict between the demands and expectations which one associates with the national culture and those which are part of the local culture. The resolution of this conflict is most often at the expense of local authority.

Participation in Politics By the People

A second characteristic, closely paralleling the first, is limited participation in the political life of the society. Political participation is an accurate gauge of the level of conflict in a political system more often than it is an indication of the fulfillment of a need or responsibility imposed by the system. Traditional democratic theory has visualized the model citizen as being the one who exercises his rights and obligations by becoming involved in political affairs, weighing the issues and candidates and voting according to his own preferences independently reached. Recent studies of various political cultures suggest however, that low participation is more often the norm than the exception.

Explanations as to why the system continues to function when participation is minimal range from the suggestion that low participation is indicative of a high level of satisfaction with the system and the system leaders to those that point out that critical decisions basic to the ongoing of the system are made routinely by decision makers as part of their function. As long as the decision maker is aware of the range of possible decisions which will be acceptable to the public, he is relatively free to work within this range without risking defeat at the polls by disgruntled voters.

Most of these explanations overlook those factors which are dominant in the Southern culture and are a product of the extension of the agrarian culture over the period in which the rest of the nation developed an industrial culture.

The style of party competition is an important variable in determining the participatory level of the electorate. The control politics of the one-party South created unchallenged loyalty to the Democratic Party and focused the competitive function on the candidate. Issue differences were minimized at the same time. Candidate orientation served to develop loyalty to personalities and in a contest among several personalities, the incentive to participate drops when particular personalities are eliminated. Election laws requiring a majority for nomination or election have the effect of systematically eliminating potential contenders and discouraging coalition politics. Such laws dominate in the Southern culture.

The absence of party competition works to the disadvantage of citizen participation when the single-member constituency system of election is used to fill multiple offices in an election system. As changes in the socio-economic alignments at the local level amplify the range of strata within the mass, a struggle for power in each strata is kept contained within the strata by this device. Potential alignments of people with similar issue or party orientations are avoided by a division of constituencies according to geographic boundaries and simple head count. This permits the containment of the plural forces within separate voting units where contests operate on a winner-take-all basis. Enthusiasm for participation falls off in relation to the elimination of favored contestants when there is no annealing force of party responsibility to cause the supporters of a defeated personality in one constituency to get out and vote for the party candidates running on a statewide basis.

The controlling myth in this situation is the oft-repeated contention that one votes for the man, not the party. When this is the motive force for involvement, it leads to a political climate in which elected officials retain a high level of independence from the moderating influences of party discipline and can cause that particular malady of many personalities, an ear tuned to the people one wants to hear but deaf to all others.

When participation is high and political conflict at a maximum controllable level, the elected official is the agent of the electorate. The demand level of the public on this official is thereby broadened and the expectation that the political system can serve the individual rather than control the plural forces of society is heightened. When participation is low, expectations are necessarily reduced and politics becomes dysfunctional to the needs of the individual.

Political Leadership Style

Another variable critical to the level of participation is the style of political leadership. This style was set by the substitution of a separation of powers for competitive parties as a means for control over political leaders. Separation of power in a state system has the effect of invoking a federal approach to that which is essentially unitary. State governments are unitary in the sense that local government is an extension of the law-making and law enforcing authority contained in the single state constitution. Federalism implies independence in both the source and the extension of these authorities. By creating within a unitary system political conditions in which most administratives officials are elected, special legislation is necessary for the extension of power and authority to the local level and the executive lacks effective control over key legislators, the effect is to federalize the system. In the absence of party responsibility, then, local politics is virtually independent from state authority.

Combined with the low level of participation, the result is that the various elites are not dependent on a hierarchy of authority for perpetuation of power as long as a laissez-faire relationship among elites is maintained. In periods of stress and potential voter revolt, it is not uncommon for the state legislature to avoid dealing with needs and demands by giving over the responsibility for meeting these demands to the local authorities. This is often hailed as evidence of the desire to return power to the "people" but has the real effect of isolating members of the public from each other by taking a decision out of the representative assembly and parcelling it out to the myriad of local authorities. While each senator and representative can absolve himself of the responsibility for having passed onerous legislation (and perhaps prevent defeat at the next election), this creates a situation in which group needs are bypassed and no effective surrogate for individual needs emerges.

The result is not a group consensus on the style and nature of state government as much as an ordering of potential conflict at a minimum level. An informal bargaining process among the political elites as to what should be done and how it will be done is substituted for the confrontation of political forces. This avoids the necessity of dealing with issues of genuine concern to the electorate while permitting the maintenance of the system at a relatively static level. The linkage of classes and divisions in this manner is accomplished by the agreement among decision-makers who purportedly speak for constituencies but does nothing to disturb the equilibrium which keeps each strata isolated from the others. Efforts for reform, control, or abolition of this separation of power by the development of responsible political parties are usually discouraged, for such a step would cut the base of those who have learned to use the system as it is.

Political Recruitment Style

The style of political recruitment is another critical aspect of the level of participation. The separation among the elite which prevails in this system has a counterpart in the continuing patterns of separation between the elite and the mass. Particularly pertinent in this separation is the control exercised by existing elites over the selection and sanction of those who will succeed to power when change becomes necessary.

Maximum participation in the political system is encouraged when a free and open process of candidate selection is maintained. In systems wherein the state assumes the cost of conducting primary and general election contests, the cutting point in terms of potential candidates is determined by factors other than whether one can bear the cost of offering for office. The model in this regard is the British system. Here, in a unitary system similar to that in the United States, fees for filing are returned if one can secure at little as five percent of the vote cast in the election. The amount of personal cost is kept low by state assumption of most costs and a strict limitation on expenditures. In contrast, filing fees, campaign costs, and related expenses mean that one must be willing to commit a personal fortune or secure the backing of those who are willing to invest in the political future of a particular individual.

The absence of party competition reduces the contest for office to the level ot the primary and treats what is normally a party function as an elective function. The primary is a device for choosing candidates. An election determines who will fill an office. In a one-party system, the general election is reduced to a routine of obligation in which one is asked merely to certify prior decisions. At the same time, the partisan flavor of the primary is diluted by the absence of restrictions on those who are permitted to participate in this purely party function. The closed primary is unknown in the South as is the concept of party registration. Both of these factors are positive inducements to participation, for party loyalty leads all other forces in getting out the vote.

The nature of political recruitment is such that for one to contemplate a political career, one must be finely tuned to the elites who control the procedures rather than to the electorate whose democratic control has been seriously inhibited by procedural proscriptions. If the courthouse is the symbol of the agrarian society, it is also the symbol of the recurring belief that the voter must make a deliberate effort to be certified to vote, and properly humbled in the process by standing in lines to serve the procedures of the elite. As the voter is faced with the necessity of proving his worthiness to participate, there is a tacit suggestion that one participates by sufferance rather than by right. Such a situation assures a high level of instability within the mass and a consequent minimum development of a viable political community at the mass level.

By maintaining control over who should rule and who should choose the rulers, elites also determine what the rules should be. The contrast between the participant life style and the world as seen by the decision makers is quite bold. Legislative bodies whether on the local, state, or central level, are more often involved in protecting the perquisites and privileges of the elite and updating the legal basis of the system than in laying the foundation for equitable relationships among individuals and between the government and the individual. In consequence, constitutions are continually amended by adding to the basic law transient needs and impulsive demands which at most should be the subject of the legal code. Legal codes do not escape the almost continuous addition of matters which are purely routine and administrative but which tax the limited time which legislators have to provide for the functioning of the system.

An interesting aspect of the legalism pervading the legislative function is the tendency to project a code of personal morality onto a corporate system as a method for controlling unwanted behavior and for the convenience of the law enforcer in need of a procedure for controlling behavior deviant from that which the elites are willing for the mass to enjoy. This is not to say that the same proscriptions apply to the elite for it is considered within the function of the elite to restrict forms of behavior even though the behavior itself is an accepted custom of the society. The anomalous situation of "voting dry and drinking wet" of which both legislators and lower elites are guilty, has a perfectly rational explanation when viewed not as a means for reforming the system but for controlling the potential of the mass to enjoy the symbiosis of politics and pleasure.

Inherent in this recruitment system is the encouragement given to the outmigration of those who lose out in the contests for power, whether political, economic, or social. The standard rejoinder to the suggestion that perhaps innovations and improvements would be beneficial is the suggestion that if one did not care for the way things were being done, one was free to leave. By minimum attention to reform or realignment, the outmigration would serve as proof that no change was really called for. In time, the discontented would leave, and the system would retain its static alignment between those who did not desire change and those who were incapable of articulating a demand for change.

Up to this point, the emphasis has been on the environmental factors which provide cues, direction, limits, and similar objective determinants of political culture. For the South, as for Georgia, culture has been molded by an agrarian culture which survived in parallel with the development of an industrial culture for the rest of the nation. Over the next two decades, Georgia will be confronted with the necessity of adapting to the environment created by the intrusion of the technological culture. This section of the paper will be concerned with the consequences of the molding of an agrarian culture with environmental impulses created by rapid technological intrusion.

Employment Picture

In 1970, the United States will have some 60,000 computers in operation and a need for 260,000 programmers. By 1990, programming as we know it today will be obsolete, and those who entered the field for the first time in 1970 will be moving toward a third or fourth retraining program in an effort to develop skills necessary for adequate employment at that time. By 1972, 46 percent of the population will be under 25 years of age. Most of these people will be in school, and many will harbor educational goals for jobs that will not exist by the time they get out. More importantly, a large share of them will be employed in jobs that do not now exist. By 1975, the demand for teachers will equal the supply and we can anticipate a decreasing demand for primary teachers but an increase of nearly 25 percent in the demand for secondary and junior college teachers over this period. At the same time, the demand for professional, administrative, and technical people will range near the 800,000 mark. Among these, it is anticipated that an 80 percent increase in computer systems analysts, pollution control engineers, and a 40 percent increase in research and development personnel will draw heavily from those who at less complex periods in the society would have been recruited into the traditional professions of law, medicine, religion, education, and engineering.

Simply put, the proliferation of options open to the job seeker is in direct relation to the complexity of the society and the range of skills necessary to maintain it. The likelihood is great that the high school student who is now contemplating a career in medicine, law, religion, or teaching or who is already checking the catalog from Georgia Tech is a product of the agrarian culture, a culture in which these are considered prestige occupations. More to the point, the agrarian culture on the threshold of transition is committed to the view that progress and advancement can be facilitated if a system of technical schools is developed as a complement to existing junior and senior colleges. It is also the mark of the pre-transitional or early transitional system to look on the technical school as the answer to the occupational demands of the lower and the lower middle class, the liberal arts and secondary-primary education colleges as the domain of the middle class and the university with its professional orientation the reserve of the upper class.

Of widespread popularity in the agrarian culture is the assumption that the function of education is to initiate the individual into the economic world of free enterprise, conservative political views, and fundamental religious beliefs. Any deviation from these norms within the system as a whole or on the part of the educational institutions courts quick and effective control through economic sanctions or forced exodus from the culture of the perpetrator of the deviation.

And yet, it is the norm of the emerging technological society to take a course which comes into basic conflict with these norms and expectations. The stability of traditional politics, ways of doing business, goals of education, and a host of other subjective orientations and perceptions will be seriously challenged as technology moves into the void created by the failure to develop the integrative and associational techniques which are the basic product of a mature industrial society. Georgia is faced with the necessity of coming to grips with rapid obsolesence of traditions and techniques in the midst of geographic and social mobility of the population, changing patterns of authority between mass and elite and the geometric effect of changing demands and inputs into the system.

The process by which the individual learns how to relate to an environment, whether static or dynamic, is called socialization. Here, we are concerned with one aspect of this, political socialization. Dwaine Marvick has suggested that "political socialization . . . is concerned with how a person comes to terms with the roles and norms of the concentric political worlds—local, regional, and national—into which he passes as he grows up". Moreover, "in any extensive society there is a plurality of political milieus into which a person coming into adulthood passes." It is these worlds and milieus which leave psychic prints on each individual and determine the level and kind of demands and supports he is likely to be capable of.

Each individual stands between the cultural environment, which is a fairly stable impulse, and the day-to-day events which reflect the dynamism which only an increasing number of variables and options in an ongoing system can create. The individual stands so that his perspective is influenced by two levels of decisions, the allocative and the involvement. With regard to the first, he is required to make decisions regarding the quantitative limits to be set in the acquisition of physical necessities for the functioning of the state and the qualitative decisions concerning the nature and extent of physical facilities to be employed. On the second count, involvement decisions establish the nature of the individual's commitment of self and substance to the state. Basically, there are two considerations; the first being the degree of compliance with legitimate requisitions of the state in terms of taxes, personal service, and material possessions and the second the degree of voluntary contribution one is likely to make over and above the minimum.

The nature of these decisions reflects the environmental influences and the cognitive, affective, and evaluative effects of one's perception of and orientation toward the government, the regime, and the political community. David Easton defines the government as "the authorities who make the binding decisions," the regime as the constitutional order, norms, and basic form of the system, and the political community as the "group of persons who are bound or drawn together to solve common problems, participating in a common division of labor."

To what extent does the life style of Georgians facilitate this decision making process as a variety of new pressures reform the environment? One, of course, cannot extrapolate directly from the known life styles of the present configuration of the Georgian population to a point more than a decade in the future without treating with a highly technical body of data which is outside the scope of this paper. Nevertheless, it is possible, as Harold Lasswell puts it, "to think creatively about how to alter, deter or accelerate probable trends in order to shape the future closer to (one's) desire." This, of course, is a primary function of development analysis. Lasswell differentiates among goal-thinking, trend-thinking, and scientific-thinking as three distinct components of decision-making. For Lasswell, goal-thinking is ". . . the analysis and selection of values or objectives towards which decisions are directed." This is heavily dependent on hard thinking about the way things are likely to turn out. In this respect, the nature of the probable environment, the patterns of perceptions and orientations presently held, the configurative basis of these perceptions and orientations, the problems inherent in the interaction of these objective and subjective determinations, and the specification of the optimum achievement to be hoped for over the next two decades can be suggested.

Developmental Trends

The nature of the present environment has been outlined. The patterns of perceptions and orientations can be analyzed and the configurative basis outlined by recourse to subjective data obtained from recent surveys of the Georgian public. From these sources and by specifying the probable nature of the emerging technological environment, one can have available enough information to suggest courses which would tend to focus developmental trends in the direction of specific goals for the eighties.

The patterns of perceptions and orientations are drawn from a random survey of the population of Georgia conducted within the last few months. The questionnaire used permits taping the way Georgians feel about their government as a political institution and themselves as political participants.

A series of questions was posed to determine the level of cynicism within the Georgian electorate. More than one-third of the public have strongly negative views with respect to the conditions of competence, efficiency, trust-worthiness, representativeness, and honesty among government officials. Responding to the question, "Do you feel that almost all of the people running the state government are smart people who usually know what they are doing, or do you think that quite a few of them don't seem to know what they are doing?", 37 percent of the 584 respondents in the survey acknowledged that, in their view, "quite a few of them don't seem to know what they are doing".

Thirty-eight percent of the same respondents believe that "people in state government waste a lot of money we pay in taxes". A somewhat greater number, 44 percent, did not feel that it was possible to trust the government of Georgia "to do what is right".

One may be inclined to argue that these basically negative orientations are at variance with the common sense of the public, for after all, are not these officials their representatives? The fact that 46 percent of the sample felt that the "government is run by a few big interests looking out for their interests" is testament to the largely negative connotation given to the concept of "public servant".

Less than one out of five Georgians considers elected officials to be basically honest in their life style. Nearly one-third hold the view that quite a few are crooked and the most that the majority could say was that after all, not many are crooked. This would suggest that, among Georgians, there is a relatively high level of tolerance of corruptness as a normal and expected factor of political life.

Lest one be inclined to dismiss these statistics as distorted because of the number of people involved in the survey, it can be said that the procedure used in the selection of the sample followed technical requirements which permit one to say that the same results would occur 95 times out of 100 within four percentage points more or less. Thus, 46 percent could be read as 50 percent or 42 percent or somewhere in between for 95 out of 100 observations no matter how many more than the original number were contacted.

The Individual's Role

Turning to questions concerning individual perception of one's own role in the political system, a set of four questions probed for feelings of personal worth and value to the political system.

Eight out of ten Georgians feel removed from the functioning of government to the extent that they perceive voting as the one way and the only way open to them if they want to have a say in the way state government runs things. The narrowly construed function of the individual is a hallmark of the agrarian society. To conceive of one's role in the system as having a single dimension is the antithesis of the participant life style of the contemporary citizen. Options such as participation in voluntary organizations, action through mass movements and protest groups, representation of interest by pressure groups, communication with elites, and many other activities are normally open and retain varying degrees of sanction in the modern society.

Almond and Verba, in their seminal study of the "civic culture," point out that a sense of civic competence is the *sine qua non* of participatory democracy. To assume that voting is the only route to influence, one would have to be exposed to experiences and instruction keyed to unidimensional roles. Civic training and civic experience in the agrarian society commonly follow this approach. It is an especially effective method for political control when the elites of the system are permitted to exercise a great deal of latitude in extending or restricting the voting function.

The cutting edge of responsible and responsive government is in a reciprocal feeling of importance between the public and the government official. For this to occur it is necessary that the citizen believe that the official evinces concern for individual welfare along with his corporate function of representing the interests of state. At the same time, public officials need to believe that what they do is subject to the approval or disapproval of the public as a matter of course. This is an additional attribute of the sense of civic competence pointed to above.

Nearly half of the respondents, representing, in turn, an equal proportion of the total population, readily admit that they do not think that public officials in Georgia care much about what "people like me" think.

The behavior of state officials in conducting the affairs of government often takes on the characteristics of a group of anointed mystics conducting mysterious rites and performing complex rituals which only they are privy to. While this is by no means restricted to Georgian officials alone, the complexity of procedural methods, the lack of routine instruction in the methods common to parliamentary and administrative behavior as well as limited periods in which the public is sufficiently interested to find out what is going on combine to convince six out of ten Georgians that "sometimes Georgia politics and government seem so complicated that a person like me can't really understand what's going on."

To what extent can it be said that the "people's representatives," the state legislators, present objective evidence that a concern for individual welfare shares a role equal to the responsibility devolving on them to represent the interests of the state? The kinds of activities which are characteristic of the legislative function present a convenient index of individual vs. state interests.

Somewhat more than a quarter of the 159 counties in Georgia suffer from acute poverty problems and were designated as "hunger" counties in a recent study of hunger in the United States. Some 33 House Districts and 20 Senate Districts cover these counties. Of the nearly 400 bills introduced during the last legislative session from these House and Senate districts, only one was directly appropriate to the basic problem of hunger. Matters of state such as a bill to provide standard time for the state of Georgia, the provision of a raise in salary for Superior Court judges, the regulation of obscenity, the granting of special tax advantages to certain retired military personnel and a host of "housekeeping" bills designed to adjust structure and function of government dominated the input from Senators and Representatives of these counties.

Additionally, the citizen can be forgiven if he has difficulty in comprehending the function of the public legislature when several representatives were concerned enough about the appearance of road surfaces to introduce House Bill 50, entitled SCRATCHING OFF. The purpose of this piece of legislation was "to prohibit drivers of motor vehicles from deliberately causing tires to lose firm traction with the surface of the road, causing their vehicle to leave black marks upon the surface of the road."

Some optimisim may be permitted to creep in, however, when one is confronted with the knowledge that a majority of those polled feel that they have a "say about what the government in Georgia does." Since it has already been made evident that voting is conceived as the way in which this "say" is perceived to be accomplished, the door can be closed on this optimism in light of the traditionally low voter turnout, lack of political organization, and basically unrepresentative nature of the electorate in many of the counties having the greatest need for corrective rather than control politics.

An examination of the sample from another perspective provides clues as to the general orientation in terms of expectations, supports, and basic consistencies in outlook between the general voter and the various elites in the system. For the public as a whole, expectations of service to the individual from the state are limited to the continual underwriting of the educational system and the provision of adequate supports for comprehensive mental care. Concern for the maintenance of humane prison systems, the ubiquitous highway system, and local governments commands less enthusiasm for most Georgians.

Education as a service co-opts other concerns for individual service and, by its inclusiveness, creates the illusion that the spectrum of personal needs, education, welfare, and maintenance will be met thereby. Thus, demands for public kindergartens or support for such programs may result from the basic need for custodial care of children of working mothers as much as from a pervasive desire to see the child adequately prepared for the socializing experience of formal group life apart from the family.

Similarly, willingness to allocate money for school bus transporation can as easily reflect the absence of a second car or a car-pool at the lower income levels. Might it also be suggested that support for the underwriting of a school is more highly correlated with a winning athletic program than with academic excellence? Finally, a school lunch program, janitorial services, building and ground maintenance, transportation equipment and the drivers and maintenance personnel more often combine to form the most important economic complex in an otherwise poor county and furnish important sources of patronage and power for the elites who control the school board—the most basic level of political life—at the local level.

One cannot judge support for education on the part of the public as support for the function of learning alone but rather as support for an inclusive institution which has come to provide many of the subjective needs of the public within the context of a political subdivision close to and controlled by the client. Consensus between the public and various elites on a wide range of educational expenditures, practices and proposals has been documented in a corollary survey to the one mentioned above. In view of the number of ways in which individual demands are met through educational supports, consensus is the expected outcome.

There is a danger, of course, in the high level of support for education in the sense that it tends to divert attention from additional service needs with a much less effective support level. Most counties have traditionally operated with two political units, the school board and the road commission. The taxing power of one is independent of the other but both are permitted to assess taxes at the local level as well as share in the distribution of funds from the state government level. If the school district fulfills the role of the most important economic complex in many counties, the board of county commissioners is a more formidable economic institution from the standpoint of the patronage and sheer political power possessed by these commissioners. Unless the school district elites and the county commissioners are willing to raise and expend funds for corrective politics, there is almost no basis for support of such endeavors at the local level. Just in the area of prison reform alone, the anomaly of asking the commissioners to reform what has been a traditional source of cheap labor is apparent.

Political Elites

In attempting to find a handle which will enable one to grasp the nature of political culture at a particular point in time, then, the main benchmark is in the personal and corporate characteristics of the individuals who have successfully used the existing system to obtain and retain positions of leadership. In other words, the public and private behavior of political elites is a much more accurate display of the underlying attitudes and opinions of the culture than is the description contained in the variety of public relations brochures and newspaper accounts. Elites operate within the channels marked by public tolerance for modes of behavior at one end to the proscription of procedures and methods at the other.

The identifying characteristics of action over time, in this sense, vary with the nature of the individuals chosen for leadership, their modes of behavior, conceptions of strategy as well as their belief in the end-producing value of the various techniques chosen. One must then describe events and situations against the norm of behavior of the principle mix of individuals involved in decision making rather than the standards set by past societies or even those emanating from a more inclusive national society. Given the environment, the events and the people, are they reacting as they would most likely react? While the reaction may be out of touch with the past or the total society, the action, if congruent with the expected norm, would lead one to answer, "yes".

In an agrarian environment, elites dominate the decision making process with little effective control exercised by the mass. This is the state of political culture in Georgia at present. In the next decades, Georgia will be moving toward the integration of the technological society with this culture. There is little doubt but that the economic culture will quickly adapt to the force of this intrusion. Political culture, however, is disjunctive with economic culture at various stages of development. While it is possible to pass on economic culture in a linear, incremental sense from one set of economic skills to another, the political culture associated with one economic level does not function with skills which can be easily adapted or improved for the next level. A basic failure to understand that political culture is a discreet phenomenon requiring special skills and techniques can easily upset the mode of transition from the agrarian to the technological society. The national culture faces the transition into technology with philosophies, ideologies, and procedures developed out of the agrarian culture as does the southern culture. The basic difference is that the national culture is guided by elites whose experience and successes have been gained in coping with the industrial culture.

Great Impact

The extension of technology to the South has had the greatest impact on Georgia. Georgia is then the prototype for determining how and with what effect technology and agrarianism merge. At the outset the effect is disruptive because of the long-term tendency to export problems, resources, and surpluses rather than learning how to deal with them. The development of talents and abilities in stabilizing the diverse, plural populations of the industrial society was not an important part of the socialization experience of the Southern culture. Georgia, through population mobility, has obtained from the industrial society many who are adequately trained in these techniques and can bring benefit to the system if they are able to work in a supportive milieu. Metropolitan Atlanta offers the greatest potential, but it is questionable whether the environment in the rest of the state will change sufficiently enough in the next decade to sustain long term innovation.

The nature of political conflict likely to occur will be moderated but by no means eliminated in the metropolitan area. For the state as a whole and for the non-Atlanta area, the emerging political conflicts will be a function of demands for the development of an inclusive, participatory society on political leadership styles which are more influenced by past experiences than the demands and realities of the political milieu created by the technological society.

Edgar Litt has pointed out that traditional politics has followed class, regional, and ethnic distinctions. The political machine in the industrial society was a major instrument for both integrating and separating individuals in class, regional, and ethnic alignments. Political leadership was most successful when the decision was made to support strategies of integration or separation but was destined for failure when both ends were pursued. At the same time, the consistent use of courthouse politics to preserve the distinctions between elites and mass in the agrarian society assured effective control over any change in alignments at this level.

If the political community created by this diverse leadership was consensual, it remained so only as long as the environment was subject to unchallenged control by political elites. As the society becomes more affluent under technology the tendency will not only be for it to fragment and in the process blur the distinctions of class, regions, and ethnics, but also increase the level of individual competence to the point at which the individual will no longer be routinely in consensus with the elite on key issues of the system.

The party system, by drawing from

groups, levels, and regions tended to balance the political system. But if the technological society continues to meld groups, levels, and regions into similar patterns of socio-economic status, politics based on balancing elites with ethnic, class and regional demands will become divisive rather than conciliatory as the affluent move farther from the non- affluent on the socio-economic scale. The end of community is a real prospect as the economic middle class moves toward philistinism and the ideological middle class becomes more labile.

The success of the parties in socialization comes in conflict with the inability of the party mechanism to be the vehicle for assimiliation of the last unsocialized groups, the low income, the low productive, and the low valued individual. Politics must, in the technological society, follow output demands in the forms of service to individuals. Politics is geared to the support of capital goods acquisition but not to long term individual needs. Thus, individuals fear technology to the extent that it forces them to see people as individuals rather than as agents of production. Historically, political power has resulted in an increase in lower class sacrifices, a rise in middle class power and effective control over both by the elite.

The problem of the redefinition of purpose for the institution and the individual cannot be solved by treating it as a unitary problem but rather by the recognition that only with conscious concern for and awareness of the disjunction between modern technology and traditional factors of statecraft can a realistic approach be made. The function of the state toward such an approach is not to continue to seek methods for control over this disjunctive effect but rather to devise innovative methods for facilitating the capacity of the general public to cope with society as it is.

Daniel Lerner characterizes this capacity as a "participant lifestyle". The basic ingredient in this is what can be called "psychic mobility" or the ability to relate oneself to a variety of secondary symbols and public issues without being personally involved. The confrontation of individuals with the realities of race, war, and technology which the parochial nature of the society previously prevented makes efforts to withdraw from the realities by a series of legal and procedural restrictions now obsolete. Psychic mobility is the result of the ability of mass media to cut across previously existing barriers to achieve interhuman communication. The folk view of society is fast becoming obsolete at the very time that it is still the basis of civic training in the schools and colleges. The function of education must change with basic changes in the stages of development of a society. At the technological level, the need is for resocialization. As experience and visual contact through travel and television accentuate the gap between the folkview and the real society, one begins to seriously question the regime norms. Unless these questions can be adequately answered, the prospects for a smooth transition to the technological society are dim.

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critique:

The Political Culture of Georgia

By Anthony M. Orum, Professor of Sociology, University of Illinois

IN ORDER to understand the political culture of Georgia, one must raise the following questions.

- What is the nature of the formal rules that regulate decision-making?
- What kinds of persons occupy the roles of decision-makers, particularly in terms of their social and economic characteristics?
- In what ways are the decision-makers recruited and selected?
- What kinds of norms regulate the public's participation in the decision-making process, and how widespread is the acceptance of these norms?
- How do people learn the norms that regulate the making of decisions as well as the choice of decision-makers?

Let us now consider the answers that Professor Fairchild provides us with about each of these matters.

Professor Fairchild offers very little information about the formal rules of Georgia's political system, except to note that the current system is one in which power resides in the hands of local decision-makers, i.e., the "courthouse" politics. In my opinion, his analysis about formal rules especially the way in which they can affect Georgia's political culture is much too brief. It seems to me that the kinds of social and economic changes now occurring throughout the United States, such as increasing population size and the shift in population concentration from rural to urban areas, and from central cities to suburbs, ultimately will compel most state governments to alter their constitutions. Even now, several states such as Illinois are planning constitutional conventions designed presumably to make the governing of these states more efficient and more responsive to the public's demands. Once such changes are instituted, they undoubtedly will have a great impact on the political culture of these states, particularly the norms that govern citizens' obligations to participate in politics, and some of the informal means by which decision-makers are recruited. The possibility of a statewide constitutional convention and its consequences for the political culture of Georgia should, at least, have been considered by Professor Fairchild.

With respect to the kinds of persons who occupy the roles of decision-makers in Georgia politics, Professor Fairchild's answer is more or less contained in his characterization of Georgia politics as "agrarian." He believes that Georgia's decision-makers are an elite in the sense that they possess a great deal of power, and seek and exercise control in politics. I would tend to concur that Georgia politics are traditionally oriented insofar as there seems to be a high correlation between the power of individuals to make decisions in the public arena and their power in other areas of the state, notably the economy. (Still, one should try to gather evidence about this matter by making a brief examination of the backgrounds of state politicians and local politicians.) In addition, it seems to me that Professor Fairchild should have given more thought to the possible changes in the social and economic characteristics of Georgia's decision-makers. For instance, if we can believe the evidence about the changing characteristics of local politicians, one would anticipate that as Georgia becomes more urbanized and industrialized, there will be a growing number of decision-makers who are professional politicians — concerned with the practice of politics per se — and a simultaneous decline in the number of decision-makers whose expertise rests solely on their success in business, or their possession of wealth.[1]

Professor Fairchild gives some attention to the manner in which decision-makers are and will be selected, but his conclusions about this question are vague. It seems to me that one of the most visible facts about contemporary Georgia politics is the increasing competition between the Democratic and Republican parties at the state and local levels of government. Inasmuch as the growth of Republicanism is based on increases in education, industrialization, and urbanization, there is little doubt that as these latter trends continue in Georgia, the Republican party will continue to grow in strength. And, as Professor Fairchild comments, such competition is a healthy symptom of the body politic and will help to promote increased participation and interest of Georgia's citizens.

The fourth major topic which it is necessary to examine concerns the kinds of norms that regulate the public's participation in the decision-making process and the degree to which these norms prevail among the public. Professor Fairchild suggests that the fact of relatively little participation in politics is consistent with an agrarian type of political system. This assertion is correct according to certain theories of modernization and politics, but Professor Fairchild nowhere presents evidence about the actual level of participation in Georgia politics. One ought to inquire, for instance, whether the level of participation in elections in Georgia is now lower or higher than it was 10 years ago. More specifically, one ought to ask whether Georgia differs at all from other states, especially Southern ones, in terms of the proportion of her citizens who participate in politics. My own reading of the situation is that the level of interest and participation is lower in Georgia than in the North, West or East; but, to the extent that interest and participation are direct functions of education and party competition, then as these factors rise in Georgia, there should be a corresponding increase in political participation and interest.

Professor Fairchild also examines the degree of acceptance and nature of the norms regulating the public's participation in politics in Georgia. He concludes that about one-third of Georgia's citizens feel that their state government is remote and its officers apparently untrustworthy. This level of political cynicism raises several questions. First, is this proportion high or low in comparison with that in other states? Second, what are the possible changes that will occur in the level of cynicism between now and 1985? I suspect that changes in the formal rules of the state and local governments which would serve to increase public participation in politics also would reduce the degree of political cynicism in the state. And third, it seems to me that there should have been some consideration of the manner in which cynicism varies with social class, religion, or ethnicity. Past evidence about the links between these social variables and political attitudes reveals that cynicism is concentrated among the underprivileged and discriminated segments of the population.[2] Hence, if the proportions of these groups should increase in Georgia over the next 15 years, then there should be a corresponding rise in the extent of cynicism. Yet, if there are increases in edution and wealth in the state as well as in the level of participation and interest in politics, one also would expect a decline in the extent of political cynicism.

In a rather oblique manner, Professor Fairchild also addresses himself to the matter of political socialization, that is, how people learn the norms that regulate the decision-making as well as the choice of decision-makers. The most important consideration about the political socialization in the future of the state is the fact that the rules and norms in politics will change in the next 15 years, becoming, in part, much more complex. Naturally, the change in content of politics will be reflected in the mass media and in the family. Yet, agents of socialization like the educational system can also play a major role in political socialization. Specifically, as the complexity of the political system increases, and as the need to educate persons for participation in the political process rises, there will be a corresponding rise in the importance of educating persons for active roles as citizens. In this regard, the educational system can play a vital part by teaching youth about the importance of political participation and awareness as well as stressing the principles of controversy, conflict, and tolerance in the political arena.

The final matter which I wish to discuss here concerns the absence of any consideration in Professor Fairchild's anaylsis of the different social, economic, and ethnic divisions within Georgia. Industrialization in Georgia in the past 10 years or so has been concentrated in large urban areas and has promoted population growth in these centers. As a consequence, an almost indelible division has developed between the political culture of urban and rural Georgia. If the disparities in population growth and industrialization persist, then this political cleavage will probably continue and, more so than in the past, may be reflected in the party competition in the state. It is also likely that the large urban centers themselves will become foci for strong political divisions particularly between the central city and the suburbs. Undoubtedly, this kind of urban expansion will produce new kinds of governmental arrangements between the center city and fringe areas. One should also entertain the possibility that such large aggregations of people may produce new kinds of regional, or even intra-state, political systems which are designed to be more effective and efficient than the current systems. In short, it is quite likely that as the urban centers expand, the importance of urban governments will increase at the expense of both state and small municipal governments in Georgia.

Although Professor Fairchild addresses himself to the roles of class and ethnicity in the development of Georgia's political culture, I am not at all clear about his interpretation of these phenomena. In my opinion, the new party competition in Georgia is becoming divided primarly along class lines. That is, large segments of the middle- or upper-classes are becoming Republicans in state and local politics, while the lower-class remains Democrat. If such a trend continues, then in the next 15 years or so, we may find that the interests of and conflicts between social classes in Georgia will be more effectively represented and resolved at the level of state politics.

Besides social class, there is also the matter of race in the future of Georgia politics. At present, the participation of black Americans is minimal, and their representation in local and state governments is by no means an accurate reflection of their numbers, especially in communities such as Atlanta. Assuming that there is an increase in the number and ecological concentration of blacks, there is little doubt that they will become better represented in national, state, and local politics. In any event, the interests and grievances of whites and blacks, especially those of blacks, *must* find some form of political expression through the regular channels of Georgia's political system. Without the legitimate and continuous expression of the interests of blacks and whites, it is highly improbable that the political system and culture in Georgia in 1985 will be a viable one.

Footnotes

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Perspectives on Health Care: Georgia 1970-1985

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THE past half century, marked by remarkable scientific advances and a shifting social scene, has greatly altered medical care and health services. Patient care on an interpersonal basis between patient and physician has changed to health care given by a group of professional personnel, increasingly concentrated in medical centers. The spectrum of health care has been extended to involve preventive and restorative care as well as the diagnosis and treatment of a specific disease. With greater knowledge of human biology, with rising educational and economic levels, expectations and demands for health services have grown.

In Georgia, the trend of health services has followed the pattern of other parts of the country with the great difference of fewer health professionals and less available services. Statistical information indicates that in Georgia life expectancy is lower, and major diseases causing morbidity and mortality occur with higher frequency and debility than in other areas.

Medical care and health services are of relatively good quality, rendered by a dedicated group of practitioners. Under the existing system, the quantity and quality of services are related directly to the economic level of the area.

Comprehensive Care

Preventive health services such as annual physical examinations, semi-annual dental examinations, screening for major diseases, and multiphasic screening of population groups will be a larger part of health services.

The problem of birth control is being approached from social and cultural as well as biological dimensions. More efficacious methods and greater understanding of the need for family planning will evolve over the next 15 years. Genetic problems in many ways closely related to birth control have been studied intensively in the past decade. In the next 15 years prenatal diagnosis and therapeutic management of genetic problems will advance rapidly.

Environmental factors such as environmental toxins, nutrition, and pollution will be subject to increasing control. Nutrition will continue to be the focus of research and application, as there is more awareness that subtle forms of malnutrition are major contributors to health problems.

Bioengineering contributions will improve the management of medical care and health services. Chemotherapeutic agents will be developed to help manage a broader group of debilitating diseases. Nuclear medicine will have greater application to diagnosis and therapy in cancer and detection of early functional changes in organ systems.

Organ transplantation and development of artificial organs will continue to be a focus of interest. While kidney and heart transplantations have been studied most intensively, transplantation of other organs such as lungs and liver will be explored.

Mental health services will become more widely available and will reduce the large number of people who have in the past been placed in institutions with little hope of return to a productive life. Non-medical use of drugs, primarily used to escape from distressing life situations, represents in part a cultural phenomenon and will lessen as the cultural factors which have brought about such use are better understood and handled.

Restorative and rehabilitative measures have broadened the outlook for a large group who in the past have been severely handicapped and incapacitated. Further advances such as the development of better prostheses, will make productive an even larger group of incapacitated people. Those people with shorter term incapacities can and will be returned to full productivity through application of restorative and rehabilitative processes.

Health maintenance applicable to the whole life span has particular significance for those in the upper age groups. The amelioration of the effects of long-term degenerative diseases and other aging processes will improve the functional ability of this group.

Systems Applications

Although tremendous strides are being made in advancing medical science and technology, the improvement of productivity in the delivery of health services is a critical need. Management systems to better utilize the health resources can be realized through employment of systems specialists in collaboration with traditional health personnel. Improvements in the availability, accessibility and acceptability of health services is one area in which systems specialists and health professionals could effect change. Determination of the mix of highest quality and greatest quantity of health services can be approached through systems analysis techniques.

The main thrust of centralizing or concentrating health services around hospitals and clinics will continue because of commitments which have been made.

The development of neighborhood clinics now being subsidized for low income communities may provide a model for better health care for all segments of society. A shift in emphasis to that of health maintenance and health management could lead to the dispersal of health services and facilities to the locales identified by population density or population gathering points. Studies and models of clinics and hospitals designed to avoid obsolescence will substantially influence design of health facilities.

The rate of increase in physicians within Georgia has exceeded the rate of increase in population. However, the physician to population ratio remains below the national average. To maintain the present ratio 3200 new physicians will be needed by 1985. This could be accomplished, with improvement of the ratio, by expanding enrollment in medical schools and attracting physicians to the state.

To maintain the current ratio of dentists to population 1200 more dental graduates will be needed in the next 15 years. Auxiliary dental personnel to assist the dentists will need to be increased by 1300. The dental situation in Georgia requires immediate and concerted efforts to effect better organization and delivery of dental services. Demand for dental health services is increasing at least as rapidly if not more rapidly than the demand for medical services.

Nursing and allied health professions must attract the greatest number of those concerned with health services. New allied health specialties must be developed to render the needed services. Training below the professional level must be improved and career development programs developed so that individuals may have upward mobility. Nursing and allied health personnel will provide more immediate health care with physicians, dentists, and other highly skilled specialists utilizing time and skills more effectively.

Educational Implications

In Georgia a population increase of 20 percent may be expected by 1985. The demand for health services may increase by 50 percent. To meet this demand, the educational system must be responsive from the early school years through vocational schools and higher educational institutions. Educational and training concepts and practices will need revision to insure the career patterns needed for the varieties of personnel who will be providing health care services.

"In many respects the requirement for health services can be virtually insatiable, depending upon a society's level of expectation and the resources it wishes to allocate . . . At at any rate, it would appear that any characterization of the dimensions, quantitative and qualitative, of requirements for health services is arbitrarily defined, at least within the limits of the present scientific ignorance."

. . . Dr. William L. Kissick

HEALTH has been a basic human concern from the time of first recorded history. Before modern medicine, however, disease was surrounded by mystery since it struck quickly, without warning, and oftentimes fatally. Death in childhood and during the most active and productive years of young adulthood was a common occurrence. The average life span was short. Most people died from acute infections. The past half century, however, has witnessed remarkable scientific discoveries and advances in the treatment of disease. As a result of these radical changes and the shifting social scene, the practice of medicine has been greatly altered.

Traditionally, patient care was on an interpersonal basis between the patient and his physician. The family assumed responsibility for nursing care in the home. Home and office care predominated; children were born, acute illnesses were treated, and most people died in their homes. The physician had a small office, a roll-top desk, a black bag, and very little overhead. Solo general practitioners dominated the field and were generally located in every community. Their practices were devoted to acute infections and contagious disease, prevention of infant and maternal mortality, and emergency surgery because the primary concern was prevention of death. Medical practice was based on empiricism and art; reliance on the laboratory was minimal. Hospitalization was rare and regarded as a terminal effort or a place to die. The hospital team was composed of the doctor and nurse. The public was poorly informed, and its expectations were low. There was no government involvement in medicine. Medical school faculties were volunteers and research activity was minimal.

Today, a host of medical and allied health personnel are involved in patient care. Most health care takes place in the physician's office (usually a suite of offices with a full-time staff, sophisticated and expensive equipment, and consequently very high operating costs) and the hospital which is now considered a place to get well. The hospital team is comprised of full-time administrators, pathologists, radiologists, anesthesiologists, technologists, dietitians, and others. Specialists dominate the medical field and are concentrated around major medical centers, in large cities, and in affluent suburbs. Rural areas and the inner city have a deficit of available medical personnel.

Today, the primary concerns of medicine are prevention of illness, chronic and degenerative disease, stress syndromes, trauma, and major corrective surgery all of which are firmly based on science, technology, and laboratory procedures. As a result of mass media, the public is highly informed, and their expectations are unrealistically high. The government now collaborates with medicine as a third party payer and as a provider of funds for medical education and research. Medical school faculties are generally full-time and committed to research activities.[1] In Georgia the pattern is much the same as, if not more traditional than, it is nationally.

An article by Jaco entitled "Twentieth Century Attitudes Toward Health and Their Effect on Medicine," states

> Americans today are spending more, using more and apparently expecting more from their physicians, their hospitals, and their clinics than ever before in history. The increased demand by the American public for medical care in general has affected every phase of the entire health and medical-care complex, as indicated by the following trends: the gradual rise in proportion of total income spent on medical care; more prepayment coverage for health care in an increasing variety of plans; demand for more health information by the general public and for more informed sources in addition to attending physicians; the growth of group medical practice and demand for more generalized health coverage despite increasing specialization; increase in preventive medical care in various forms of "check-ups"; increased support for medical research from varying public and private resources; and an increasing importation of physicians into the United States from other countries to meet the accelerating demand for medical services. The question therefore is in order: Does this increase in the use of medical services and facilities indicate a significant change in the attitudes of the American people toward medical and health care during the twentieth century?[2]

In attempting to answer this rhetorical question, several factors can be identified which have contributed to American attitudes and opinions about medical care. Obviously, advances in clinical medicine related largely to scientific developments have resulted in the patients' bringing with them increased expectations of the medical care they receive and criticism of care falling short of these expectations. Moreover, in moving from an agrarian to an industralized society, our value system has changed from one to self-sufficiency to one based upon group dependency.

A second factor is an expanded concept of disease and illness which includes many more problems of human behavior in need of medical attention. Acute illnesses are being replaced by chronic illnesses which require protracted and different types of care. The healing role of the physician has been expanded to include such things as obesity, fatigue, emotional disorders, marital conflicts, addiction, and delinquency. As these new "diseases" arise and are successfully treated the public demand for such services increases extensively as well as intensively.

A third factor affecting medical care is expansion of medical technology leading for reasons of economy to centralization of the medical apparatus. This development has given rise to the hospital and clinic and has shifted the treatment setting from the patient's home to the physician's office and the hospital. The end result has been an increased need for allied health personnel, increased fragmentation of services, and higher costs of medical care.

Private prepayment insurance and government programs have enabled more segments of American society than ever before to obtain care, thereby increasing public demand. The economic and social changes of the twentieth century have led some to consider medical care as a tangible product to be demanded and consumed, while most view it as a right. Furthermore, the third-party payer is demanding that the cost of care be kept down and that health services and facilities be efficiently organized and distributed as a means to that end.

The significant question, then, becomes the *value* of medical care and health since attitudes are related to values and sentiment.

> . . . with the advances in scientific medicine, the expansion of the concept of illness and treatment, and the enormous increase in medical technology and treatment centers, the demand for more and better medical care has risen tremendously in America during the twentieth century. But also, production of better but fewer physicians per capita population, more ancillary and paramedical personnel, more hospitals and clinics and higher costs have paralleled the increased quality of medical care. These developments suggest the value of good medical care has probably increased in American society during this century.[3]

Modern concepts of health have rejected its definition as absence of disease in favor of the total well being of an individual in his environment. This broad definition contains biological, physical, and social aspects and thus has implications not only for the medical sciences but also for the behavioral sciences. In addition to correcting human ailments and environmental hazards, health workers must now apply broad concepts of prevention.

As yet, our indices of health status deal only with absence of disease. Even in this limited context, Georgia has a paucity of data on chronic disease morbidity as well as data regarding care and the impact of the disease processes. Consequently, epidemiologists have urged the formation of a Georgia Center for Health Statistics patterned after the National Center for Health Statistics.

In gauging the health status of a population group, certain standard statistics are cited, such as life expctancy, infant mortality, and morbidity rates. The State of Georgia ranks 46 out of 51 in life expectancy. Whereas the national average for life expectancy at birth is 69.89 years, for Georgia it is 67.91 years.[4] Nonwhites have a lower life expectancy than whites; this phenomenon has been explained as a reflection of poverty with its concomitance of poor nutrition and lack of medical care.

In infant and maternal mortality, Georgia is above the national average. In 1967 the mortality rate in Georgia was 26.6 (per 1000 live births) while the national rate was 22.1. Georgia's maternal death rate was 3.2 (per 10,000 live births) as compared with the national average of 2.9.[5] Neonatal and fetal deaths were also above national rates.

Mortality data are only a partial indication of morbidity in a population group. Health surveys are frequently necessary to measure accurately the incidence of many conditions and hence gauge the health status of the people. Unfortunately, systematic, comprehensive surveys have not yet been undertaken in Georgia. Therefore, we must turn to national sources.

The cardiovascular disease death rate for Georgia is in the highest quartile for the United States, along with North and South Carolina.[6] According to the Georgia Heart Association, 52 percent of all deaths in Georgia are caused by heart disease. Estimates of cancer morbidity for 1969, however, show Georgia below the national rates with 124 per 100,000 population as compared to a nation average of 196 per 100,000.

The population of Georgia, like that of other southern states, is shifting rapidly from rural-agricultural to urban-industrial. By 1975, half of our population is expected to reside in the 12 counties which comprise Georgia's six Standard Statistical Metropolitan Areas (Atlanta, Augusta, Macon, Savannah, Columbus, and Albany). This concentration of population will aggravate the problems of polarization of medical resources in urban areas and lack of care for the isolated and disadvantaged.

The birth rate is higher than the national average (19.1 as opposed to 17.8 per 1000) and the present population of 4,588,000 is expected to reach almost 5.5 million by 1985.[7] At the same time, the age composition of the population is changing to contain more of the very young and very old. These factors will add even greater demands for health care services to an already overtaxed system.

Organization and Delivery Of Services

Experts in the field of health manpower believe that increased medical services alone will probably have only limited effects on hardcore health problems since the excess of demand over supply will continue to pull additional services to geographically and economically attractive areas which are already moderately high consumers of health services. Thus, the adequacy of health services will depend as much upon the organization of health personnel and their combination with other resources as it will on their numbers alone. At present, medical care is "more a collection of bits and pieces (with overlapping, duplication, great gaps, high costs, and wasted effort) than an integrated system in which needs and efforts are closely related."[8] This fragmented system through which care is provided must be improved in order to obtain the highest possible return from the resources committed. We can expect to see in the years ahead more research and pilot projects relative to the health care system and its reformation.

An integral part of the health system is comprehensive personal health care. The range of services included in this concept seeks to promote positive good health through established preventive measures, early detection of disease, prompt and effective treatment, and physical, social, and vocational rehabilitation of those with residual disabilities. The goal of comprehensive care is continuing health services, beginning before birth and lasting throughout our lives, not only to treat us when ill but also to keep us healthy. Scientific and technological advances in the various aspects of comprehensive care (preventive, diagnostic, therapeutic, restorative, and maintenative) will have a great impact on the organization and delivery of health services.

Comprehensive Care

Preventive

There are two aspects of preventive care—primary or prevention of occurrence and secondary or prevention of progression. Prevention of occurrence is represented by such simple examples as immunizations and treatment of water supplies. Such measures have greatly reduced the incidence of infectious diseases like diphtheria, measles, polio, and typhoid and are efficient and economical approaches to certain health problems.

Prevention of progression includes such measures as annual physical and semi-annual dental examinations, mass screening for cancer, and multiphasic screening of population groups. This second line of defense not only enables the early discovery of disease and consequent minimization of ill effects but also may be sensitive to pre-disease indicators. For example, prenatal care has had a definite impact on preventing pregnancy complications and on reducing maternal and infant mortality.

It is safe to predict that preventive measures will be greatly expanded in the next 15 years with more emphasis on mass multiphasic screening by allied health personnel. Multiphasic screening is the examination of patients in a multi-test laboratory clinic in which numerous physical and chemical tests are made and evaluated using automated equipment and electronic data processing. In this manner much data can be collected on many patients rapidly and accurately and be analyzed immediately, thus conserving time, manpower, and money. Although more people are aware of the benefits of and utilize the preventive services of the physician and dentist, still too many individuals predominantly from low-income families only seek care in the acute stages of illness when the cure is more costly and time consuming.

As preventive and therapeutic measures in all disciplines of medicine have resulted in greater health, fewer deaths, and a general prolongation of life, birth control has become the single most critical aspect of preventive medicine. Concerned population experts have repeatedly pointed out that we have until 1985 to develop widely used, effective family planning measures or face worldwide starvation.

The introduction of oral contraceptives nearly two decades ago and the reintroduction of the intrauterine contraceptive device a few years later have provided the most efficacious methods of contraception presently available; yet neither of these methods is ideal. Both have significant side effects, and neither is totally acceptable for all strata of society. In addition to their unacceptability to some on religious grounds, there have been social reasons for their lack of total acceptance among those in the non-white lower socioeconomic groups. While it is true that people with low educational backgrounds do not recognize the advantages of birth control and have poor motivation, the failure of voluntary family planning methods to control population growth within these low-income groups cannot be overcome simply by making services available and bridging the ignorance gap. We live in a society whose cultural values are based on an expanding population. At all levels, from the family unit to the nation itself, the economy is geared to achieving expansion rather than equilibrium. At all cultural levels, infertility or relative infertility is unfashionable and unacceptable as a life goal. The childless couple or the one-child family is viewed with suspicion and pitied rather than admired and envied. On the other hand, multi-child families give status and personal satisfaction to individuals at all cultural levels. An educational program designed to persuade the indigent to accept a level of personal fertility lower than that which is accepted by the better motivated and more knowledgeable members of the middle class is bound to fail. Well meaning, middle class white proponents of family planning have been accused of genocide. For the lower classes, an educational program to persuade adoption of standards set by the middle class for them, in a society which denies them access to middle class status, necessarily contains elements of hypocrisy which are quickly recognized. It thus appears that prime consideration over the next decade must be given to education whereby each and every individual perceives the personal gain to be achieved by limiting our population. This will entail altering the cultural goals of our society with regard to human breeding.

Governmental and other concerned granting agencies are promoting investigation into additional, more effective, safe, simple, and reversible methods of contraception, particularly in areas such as tubal motility in the female and methods that would be effective in the male. Implantation of certain gonadal steroids by means of silastic pellets with the time duration of one year, yet reversible, are still under investigation. Immunological methods have proved somewhat disheartening because of the inability to form fixed cellular antibodies. It is clear that over the next decade and a half there will be much research activity into improved methods of fertility control.

Another area of preventive care that will be greatly expanded in the years toward 1985 is that of prenatal and postnatal manipulation of genetic material. This concept is not a new one, but only recently has it been raised from the realm of pure speculation to the level of practical possibility. Parallel advances in several separate scientific fields are providing the technological tools and theoretical background necessary for practical application to the management of genetic problems in Georgia. Significant advances in understanding the biochemical structure and function of important biological macromolecules, improved tissue culture techniques, and amniocentesis techniques have made possible various significant studies and offer the possibility of both diagnostic and therapeutic treatment in utero. For example, intrauterine fetal transfusion is being carried out in the management of Rh incompatibility disease. In addition, microbiological studies on the biochemical structure and infective mechanisms of viruses and other intracellular organisms offer a possible mechanism for directed mutation of the genetic material. Methods are currently being developed and improved for handling and manipulating both male and female gametes and early conception products. Finally, techniques for transplantation of ova and early embryos from one uterus to another may make it possible for some childless couples to have children of their own "genetic stock."

In this context, the next 15 years will be concerned with prenatal diagnosis and therapeutic management of genetic problems as opposed to prenatal alteration of the genetic material. Cytological and biochemical study of the unborn fetus will allow salvage of normal babies previously doomed by lack of statistical evaluation as well as prevention of certain serious birth defects. In the past year there have been several reports (including studies in the State of Georgia) of prenatal diagnosis of chromosomal abnormalities which, if undetected, would have led to serious irreparable malformation in the infant. Likewise, some success has been reported in diagnosing certain inherited metabolic diseases. In the next 15 years, the list of congenital diseases subject to prenatal diagnosis will be considerably lengthened.

Looking toward 1985, there will be a need to provide for more complete and earlier prenatal examinations and family evaluation with a view toward uncovering possible inherited disease. At the present time only two genetic units exist in the State of Georgia, and both of these are primarily research rather than clinical units. At the very least there should be one extensive center to which patients with potential genetic problems could be referred for specialized treatment and genetic counseling. In the coming years, there will also be a need for more medical and paramedical ("paragenetical") technicians with training in the area of genetics, cytogenetics, and biochemical and histochemical assay methods. In view of the explosive research interest in genetic influence on disease, our present facilities and personnel for gentic training are woefully inadequate. In most medical schools today, genetics is considered to be a subject of low priority. Unless this deficiency is corrected, clinical ability and proficiency in dealing with genetic problems will fall short of the potential being provided by current research efforts.

Environmental factors are and will be an important aspect of preventive care. A new emphasis on preventable environmental influences other than infectious agents, such as environmental toxins, nutrition, and smoking is already occurring. The rapidly increasing awareness of the fragile nature of man's environment and his absolute dependence on it for continued existence along with more emphasis on the needs of groups of individuals will clearly alter the concerns of medical science and medical education as well as the organization and delivery of health care. Among the environmental factors which modify health and which will rapidly grow in importance is nutrition. This field obviously has implications for education at all levels throughout the state since it involves problems of production, economics, distribution, marketing, and processing. The rapidly increasing population, the rapidly increasing price of food, and the increased political effectiveness of low economic groups in this country all serve to accentuate the importance of nutrition.

Research in the field of nutrition has concentrated on biochemical and metabolic aspects, and much valuable information has been acquired. For example, studies have indicated that chronic inadequate protein-calorie intake may be a major factor in the frequent complications of pregnancy and high infant mortality rate in this region as well as a factor in retarding mental and physical growth. However, application of this knowledge to improve health has lagged. The classic severe deficiency syndromes virtually disappeared from clinical medicine when their causes were delineated during the first third of this century and preventive steps were taken primarily by means of nutritional supplementation of widely used basic foods in the early forties. Now we are aware that a great deal of severe malnutrition continues to exist for socioeconomic reasons, that chronic moderate undernourishment is common at all economic levels and influences health in a variety of ways short of the classic deficiency syndromes, that food eating habits have changed a great deal, and that the basic foods which are being supplemented no longer form an adequate proportion of the total diet. As a result, supplementation is not as effective as it used to be, and these problems are likely to increase in magnitude as processed artificial foods become an increasing proportion of our diet due to lack of availability of natural foods as the population grows. The State of Georgia is one of the main loci in this country in which relatively large numbers of malnourished people exist today. With the changing economic problems mentioned above and the population growth generally, this problem should increase in magnitude in Georgia and elsewhere in the country.

Diagnostic and Therapeutic

Changes in this area have been enormous and rapid in recent years, and we can expect more such changes between now and 1985. Within the past few years, imaginative and energetic research has yielded chemotherapeutic agents which destroy malignant tumors that despite surgical procedures once produced high mortality rates. The tremendous amount of research underway will undoubtedly lead to new and more effective drugs, antibiotics, and vaccines.

The technology of engineering has a great deal of potential for medicine and is just beginning to be tapped. Hence we now have such things as heart-lung machines, renal dialysis (kidney) machines, lasers, etc. Yet there is a lag between technology and application which will certainly be overcome as the specialty of biomedical engineering (such as the program at Georgia Tech) grows. Even the space program technology has applications in the health care field. For example, the spaceman in his capsule is analogous to a premature infant in an incubator; the problems of keeping men alive in space are much the same as those of keeping a "preemie" alive in an incubator. The space techniques of monitoring vital functions will allow patients in outlying areas to be monitored by medical centers and have specialist consultation. The Regional Medical Programs are prompting the application of this technology, and its use will increase.

With the harnessing of nuclear energy, the field of nuclear medicine should rapidly expand in the next 15 years. Ridioisotopes and nuclear energy have many applications in the diagnosis and therapy of cancer and in the assessment of functional changes in organs and glands. Currently under development are short life isotopes that can be made in the hospital and administered to the patient with fewer harmful side effects.

The biomedical instrumentation that is most likely to have the greatest impact on medical care delivery systems is the computer. The use of computers in the medical field is in its infancy despite introduction nearly five years ago. Although a few hospitals in Georgia have computer-based patient billing and medical record storage and retrieval, there has been no coordination of computer capabilities into an overall, efficient system which integrates medical, statistical, and financial data. The ability to retain and recapitulate data is the computer's primary usefulness in medicine and will enable the physician to examine more information more intensively with a greater degree of uniformity.[9] It is difficult to project the extent to which computers will automate the health care field in the next 15 years. Among the possibilities are automated poison control centers, organ donor matching, ECG analysis, history taking, multiphasic screening, diagnosis, and computer-assisted instruction. However, the development of more efficient means for the generation of computer software is still a critical unsolved problem.

Another development that should be refined within the next 15 years is neutron radiography. Radiologists in Georgia are working in conjunction with scientists at the AEC Savannah River Plant to perfect the technology for X-raying soft tissue by means of a beam of neutrons. This diagnostic technique will have great potential for early discovery of suspected soft tissue cancer.

Perhaps the most dramatic development has been in the field of surgery, particularly in regard to organ transplants. Advances in kidney transplantation have been rapid in the past 10 years. Already transplants from selected related donors are experiencing 90 to 95 percent one year survival rates with very few losses thereafter. Even kidneys from cadaver donors are doing fairly well, with 50 to 85 percent one year survival rates depending upon how close the tissue compatibility match is between donor and recipient. Improvement in tissue compatibility testing has been the major advance in the past five years, especially between related donors. Unfortunately, the tissue typing methods are not as good yet for predicting survival of kidneys (or other organs) from unrelated donors as they are for related donors but probably will be within a few years.

Coronary artery disease is increasing in incidence in Georgia (approximately 21,000 deaths per year) so that we would anticipate this over-all problem to be much greater in 1985 than it is now. It is possible, however, that dietary factors or other developments in this field may significantly alter this disease rate. An aggressive attack is currently being made surgically to improve myocardial blood flow in patients with coronary disease by implantation of internal mammary arteries into the myocardium. Extensive experimental investigations are in progress to improve myocardial blood flow by other means. These techniques may significantly alter the number of patients who may be candidates for cardiac transplantation in the future. In addition, earlier diagnosis and current investigations will most likely lead to a reduction in the incidence of multiple valve disease and congenital heart disease, thus reducing the number of candidates for cardiac transplantation.

At present the problems relating to lung transplantation seem greater than those of cardiac transplantation, but further developments may change this relationship. Up to June 1, 1969, there had been 133 heart transplants in 131 recipients, performed by 52 surgical teams throughout the world, whereas there had been only 20 lung transplants with only one long-term survival. With the increasing average age of the population and with an increasing number of people with chronic pulmonary disease, there are literally thousands of candidates for lung transplantation. It is difficult to predict the influence of various developments on the number of people with chronic pulmonary disease 15 years from now.

In general, there are many problems involved in transplantations. One of the major obstacles has been donor procurement. Another very serious problem is immunological response. There have been some reasons to believe that both the heart and lungs are more antigenic than the kidney; that is, it is more difficult to control the rejection phenomena in these instances. Rejection is suppressed to a certain degree by various drugs, but these drugs are extremely toxic and on occasion will depress the natural resistance of the body so that infection is superimposed. Infection, therefore, has been one of the most common causes of death in patients with organ transplants. The most serious obstacle to successful transplantation is the immunological barrier, but great progress is likely in the coming years in the form of improved techniques for matching tissue and improved methods of suppressing the immunological response.

Continued study will be made of the factors associated with differential long-term survival rates of patients undergoing either organ transplants or insertion of artificial organs. The National Institutes of Health are currently giving greater monetary support to the artificial heart program than to transplantation. In general, one might predict that current methods directed toward prevention and control of heart disease possibly will reduce the number of candidates for cardiac transplantation in 1985. It seems likely that during the interim the indications will be more refined and that cardiac transplantation or replacement with an artificial heart will become quite commonplace. Furthermore, by 1985 there will probably have been developed better and safer immunosuppressive methods, which may allow transplants from not closely matched humans and methods of preserving organs by freezing them so that organ "banks" can be established to make available highly compatible organs.

Because of transplantation, there has been greater emphasis on research in immunology. As yet it is not clear what clinical applications will result, but it is predictable that research in this area will yield potential prevention for many illnesses, especially those in which the body produces harmful or autoimmune responses of an unknown etiology.

In treating the individual, mental health will be given more emphasis. The greatest responsibility will lie with general medicine, for it is the primary physician who usually first has contact with individuals manifesting psychiatric problems. Yet, until recently, the average physician has little understanding of psychiatric problems as scientific cause-and-effect processes and is poorly trained for anticipatory guidance and management of emotional and behavioral disorders. As a result, the less than optimal handling of patients with psychosomatic illnesses, neurotic problems, and classical psychiatric illness is a great shortcoming. Medical education is now and will continue to emphasize more effective management of these problems.

Traditionally, the state has assumed responsibility for handling the more serious types of mental illness, mainly in institutions which are not particularly noteworthy for their quantity and quality of care. Yet it is recognized that institutionalization is not the answer to the mental health problem, and a state plan for community mental health programs has been approved. Progress has been minimal because of lack of adequate financing on both the state and community levels. Furthermore, better training programs in psychiatry and related fields are needed on the undergraduate and graduate levels to prepare people adequately trained to staff mental health programs.

Great progress has been made in altering personality and treating mental illness with various drugs so that patients who would have had to be institutionalized can now function and be treated within their own community. Such psychotrophic drugs are being used for a wide variety of reasons. Under medical sanction they are indicated for controlling mood, behavior, or muscle tension. Under nonmedical auspices they are used as an escape from distressing life situations, as a crutch in dealing with life's stresses, or for attaining several types of idealized goals, such as self-realization and the "good life." Some individuals use drugs as a way of protesting and under the guise of the drug effect, as a way of acting out hostile and rebellious feelings.

Since the present drug problem is partly a cultural phenomenon, we should perhaps examine some of the cultural factors that have brought it about. There is a tendency to blame technology and industrialization for all our societal problems. It is certainly true that many of them are associated with these developments, but it is doubtful that technology can be assigned causal blame. Modern civilized man is more a psychological animal than he has probably ever been before. Modern technology has freed him from primary concern with the satisfaction of basic biological needs, leaving him the time and energy for concern with an increasingly complex hierarchy of psychological needs. Among these concerns are his identity as a human being, the meaning of his existence, and personal destiny. These questions are frightening in themselves. The lack of answers and the lack of ability to determine one's destiny are frustrating and upsetting to performance-oriented modern man.

Since many who are finding relief through drug usage experience tension and frustration from cultural and psychological factors, the solution to the present drug problem must be sought in further understanding and correction of basic social and psychological causes as well as in attempts to deal with the problem on a symptomatic level. It is difficult to assess the real extent of the drug abuse problem, either nationally or locally. Apparently the problem has not been nearly as great in Georgia as in other parts of the nation, although there is evidence that it is increasing. Most of the illegal use by the young in our area is associated with individual neurotic and personality problems, and cultural pressures are less of a causal factor than in other regions of the country.

In general, the overuse and abuse of prescribed psychotrophic drugs are probably at least as widespread in Georgia as they are in the country at large. Though less dramatic, this is probably a more serious health problem than the use of psychedelic drugs by the younger generation. Nor is the older generation innocent of illegal drug usage. Amphetamine-type drugs are misused by all ages. From a psychological and social point of view, these are probably the most dangerous drugs available since they frequently product or precipitate paranoid psychosis and hostile destructive behavior.

Restorative and Maintenative

Medicine has made great strides in restoring function to the handicapped and incapacitated. It is predictable that in the next 15 years new prostheses will enable the severely disabled to stay out of bed, to care for their personal needs, and to be more productive.

The Georgia Regional Medical Program reports that the incidence of stroke in Georgia is among the highest in the nation. Yet the victim of stroke experiences slow or partial recovery because there is a severe shortage of facilities, services, and manpower to aid in his rehabilitation. The GRMP Task Force on Stroke has proposed an extensive plan for a comprehensive statewide program involving multi-county sharing of physical therapy services and cooperative arrangement between hospitals and nursing homes to provide continuity of care from the hospital to the home.

Although much attention will be given to physical and occupational rehabilitation for the acutely disabled, increasing attention may be paid to patients with short-term incapacities from such things as surgery. Moreover, the medical, social, and vocational aspects of rehabilitation should be more closely integrated.

Health maintenance refers to preserving from decline one's physical well being, specifically in those who have attained an advanced age and are subject to chronic illness. It is generally recognized that all age groups have special health problems, but it is the aged that present the more serious problem since this group is prone to degenerative diseases. Major efforts have been concentrated on the killing and crippling diseases, but far less attention has been paid to the long-term degenerative ones. However, as life expectancy and population increase, there will be a higher incidence of chronic and degenerative disease.

Auxiliary machines to carry on the work of vital organs will become highly developed over the next 15 years as a result of advances in biomedical engineering. It may even be feasible for people to purchase kidney machines for renal dialysis at home.

Systems Specialists

While it is clear that tremendous strides are being made in advancing medical science and technology, pressures for the improvement of productivity in the delivery of health care services through the improvement of health management systems have been minimal, and progress toward improvement has been meager. Management systems, the means by which administrative policies are executed, include not only the combinations of material, economic, and human resources that actualy provide goods and services but also the mechanisms and procedures for planning, directing, and controlling the utilization of these resources. The productivity of a management system is the ratio of output (quality and quantity) to input (resources consumed). A number of health-related developments are taking place which emphasize the urgent need for improvements in the productivity of these systems.

The consumption of economic and manpower resources in the delivery of health care services is at an all-time high and continues to increase at an accelerating rate. The predicted rise in health care costs is so dramatic that both providers and consumers of health services are seeking explanations of the problems and solutions for alleviating the increasing economic burden. The government and other third parties are beginning to seek ways to improve economic and social incentives for efficient utilization of resources in the delivery of health care services.

The technology involved in modern health care is not only expensive but also extremely complex and requires many specially trained professional and sub-professional personnel. In order to provide the comprehensive health services which are now technically feasible and increasingly sought by the public, it is essential that health care personnel be integrated into coordinated, effective health care teams. Systems specialists can be instrumental in helping design these health care teams and model health delivery systems.

The large capital investments required by health care institutions and the long lead times involved in the production of health manpower will require more extensive use of formal planning throughout the health care industry. Systems specialists will bring mathematical modeling, computer simulation, and other techniques to bear on a number of complex problem areas involving many interacting variables prevalent in most planning processes.

Systems specialists will collaborate with physicians and other health specialists in the design of health screening processes and other forms of preventive care and treatment as well as the design of procedures for individual patient interviews, examinations, and diagnoses.

Reputed shortages of health manpower at all levels, changing modes of delivery of health care services, increasing demands for more and better health care, and the literal explosion of technology and knowledge in the health field tend to make the tasks of planning, funding, organizing, and operating health educational, research, and service programs extremely complex matters. It is because of the complexity inherent in the interaction of these important factors that laissez-faire management practices, inadequate information, and independent intuitive judgments and actions can lead to instability and relative ineffectiveness in the consumption of scarce human and economic resources in the pursuit of health objectives.

By 1985 systems specialists of various types, such as operations researchers, psychologists, economists, systems engineers, industrial engineers, management scientists, and sociologists will and must play an increasingly critical role in the administration and management of health affairs if current national goals of effective, equitable, and efficient delivery of health care services are to be realized. Currently in Georgia there is an educational program in Hospital and Medical Systems. As part of this program, the Georgia Institute of Technology collaborates full-time with the Medical College of Georgia and part-time with various hospitals in the Atlanta area and other parts of the state in research and service activities. It is expected that this program will be continued and expanded in the years toward 1985.

Facilities

Health care facilities play a major role in the organization and delivery of medical care, for it is through their doors that individuals gain access to the health system. Just as increased demand has put a strain on services so it has on facilities, especially since the advent of Medicare and Medicaid.

The traditional doctor's office has now become a suite of offices, sometimes shared by two or more physicians. Physicians are beginning to group together in either specialty or multi-specialty arrangements. Neighborhood clinics have evolved as a means of bringing health services into poverty areas in large cities, whereas in small communities the hospital and outpatient clinic adequately suffice. New concepts of organization envision levels of care (i.e., hospital to nursing home to home) and regionalism.

The trend seems to be toward less institutionalization and more care at community centers and in the home, especially in regard to mental disorders. Concern over the price of care in health facilities has resulted in a recent report by the Department of Health, Education and Welfare which urges that patients be kept out of hospitals and other high-cost facilities if they can be treated just as well elsewhere. Yet we must not deceive ourselves into thinking that the demand for inpatient facilities will diminish. An evergrowing population will be the critical determinant.

Regionalism raises the issue of concentration versus dispersal of facilities. The Georgia State Plan for Hospitals and Related Facilities has divided the state into 42 medical service areas based on centers of population, of which seven are regional, 20 are district, and 15 are rural areas. While concentration of facilities is justified economically, dispersal is justified in terms of accessibility. Understandably expensive, specialized equipment and facilities cannot be duplicated in every community but must be placed at regional centers as a resource for larger population areas. Yet routine care must be available at the local level.

In establishing regional facilities the aim should be toward decentralization and the careful selection and referral of those patients who need the services of a larger, regional center. The flow should be from small, community facilities to larger and more specialized institutions, both for patients who need complex diagnostic and therapeutic procedures and also for health professionals who desire or need further training. Continuity and coordination of services and information among local, district, and regional facilities are essential.

In the State of Georgia there are 137 non-federal hospitals, including psychiatric, long-term, and tuberculosis institutions, with 28,043 beds. Whereas the national average for beds is 857 per 100,000 population, in Georgia it is 652 per 100,000 with an occupancy rate of 87.5 percent.[10] Yet in some areas, individuals are put on waiting lists before being admitted to hospitals for elective surgery. Again, as with manpower, the problem may not be a matter of simple numbers but of organization, distribution, and utilization.

Agricultural planning procedures are now sufficiently well developed to insure more focus on the patient and less rapid obsolescence of facilities. Disease orientation of medical services led to concentration of health workers around hospitals and clinics. More concern with health maintenance and management could lead to dispersal of health services and facilities to locales related to people density and people gathering points.

There are several trends in the pattern of health care delivery which will very likely continue from now through 1985. The extent to which these trends may be completely dominating is unclear, but they will all be affected by changing educational, political, and economic pressures.

There will be less solo practice and more grouping of senior professionals in health care so that they may share resources and relieve each other of individual burdens. Some groups will be small, some will be large, some will concentrate in one particular specialty area, others will offer semi-comprehensive care, and some will cut across professional boundary lines.

There will be greater efforts to provide 24 hour service to all citizens, both in current health care facilities such as hospitals and clinics and perhaps in new arrangements.

The major thrust of health care traditionally has been in terms of curing disease. A trend has begun with a major focus on prevention of illness and maintenance of health and is likely to continue.

Each year more of the population is covered by some form of prepaid plan for health care services. This trend will continue so that by 1985 the entire population will have such coverage either through taxes or through private insurance.

Students who have been active in various social protest movements are now beginning to appear in medical school classes. It seems very likely, at least for the next several years, that their numbers will increase. How their present actions may be reflected in the over-all pattern of health care delivery is not known, but their participation should make a difference.

In the past we have tended to draw sharp boundaries between formal professional education and formal professional practice. The inappropriateness of these boundaries has become apparent and is disappearing so that by 1985 we should see much greater continuing involvement of all practicing health professionals with educational institutions.

Computers and related automated equipment will have a greater impact on health care services. They will serve as aids to development of diagnosis, function as information storage and retrieval systems, and perhaps most importantly serve as readily available continuing education systems.

As part of their therapeutic program and the over-all concern for reducing costs, an increasing number of inpatients will receive complete services on an ambulatory basis with much self-care involved.

Smaller hospitals will continue to be linked with larger ones to share scarce professional personnel as well as complex and costly equipment.

Manpower

Currently the third largest employer, the health industry is expected to become the nation's largest employer by 1975. 1969 estimates show that 3.7 million Americans are employed in the health occupations. About half of these are allied health workers.

The National Advisory Commission on Health Manpower reported that the increase in number of active physicians between 1955 and 1965 was 22 percent, exceeding the 17 percent growth in population. Furthermore, the productivity of the physician increased much more rapidly at an annual average rate of four percent because of greater use of other health personnel, diagnostic medical technology, and special facilities such as hospitals, coupled with less time spent with the patient. While services have increased, personal contact between doctor and patient has decreased. With greater dependence on allied health personnal, their shortage has become of central importance in the delivery of services.

Some authorities contend that the health manpower problem is not one of numbers but of distribution and utilization. Moreover, analysis of manpower supply and demand should consider a multiplicity of variables. For example, demand for health services is influenced by age, sex, color, geographic location, education, and income; by availability of physicians and other health workers, equipment, and facilities; and by financing mechanisms.

Clearly the physician manpower situation in Georgia is more than a numbers problem since rate of increase of physicians has exceeded rate of increase in population. Still, Georgia falls below the national practicing physician to population ratio of 1 to 792 with a ratio of approximately 1 to 1100.[11] Seventy-two percent of these physicians are located in six metropolitan areas which contain 50 percent of the state's population. The Atlanta area has 46 percent of the physicians to serve only 29 percent of the state's population. One-fifth of all the state's physicians are general practitioners, whereas 10 years ago the proportion was one-third. There is a concentration of specialists in metropolitan areas reflecting the attractiveness of urban areas to newly trained physicians and the trend toward specialization.

In order to maintain the present physician to population ratio, about 3200 new physicians will be needed by 1985. This accomplishment and improvement of the ratio will depend upon the expansion of Georgia's system for educating physicians and the attracting of physicians from other states. Both the Medical College of Georgia and Emory University School of Medicine have plans for increasing their enrollments. Still, only half of the state's physicians are graduates of Georgia medical schools. Proportionately fewer Georgians are entering medical school, and more are opting for out-of-state schools.

Dental Manpower

Dentistry in Georgia as in the nation has developed, matured, and prospered as a result of need-drive incentives operating within the community and professions. The community motive has been based until recent years primarily upon a demand for relief of pain and disability, while the professional orientation has been toward the status and economic security accruing to one gifted in these skills. Currently, community need-drives have been expanded to include improved esthetics and function, and American dentistry has responded to these demands with the development of surgical and restorative skills to a preeminent degree. Furthermore, the profession has sought to deliver its services to the community through the traditional patient-doctor relationship. Solo practice, frequently without the benefit of adequately trained ancillaries, has been and is the predominant mode of dental care delivery within the state and nation. Consequently, each dentist has created for himself an isolated and insulated professional environment resulting in a high level of independence and a low level of consultation and professional interchange.

The demand for relief of pain and disability and for improved esthetics and function is increasing in geometric proportions. This increase is being augmented by the success of the profession in satisfying these demands, the improved communicative awareness of the possibilities for self-improvement, and improved socioeconomic status of major segments of the community. Thus, the demands upon the dentist's time and person are overwhelming him, limiting his ability and opportunity for self-improvement and self-expression, and further curtailing his leadership role in the community.

Pressures from within the community as well as within the profession will result in a major re-orientation of mode and method in dental practice in 1985. Trends toward specialization will accelerate, and dentists will tend to coalesce into group practices with the potential of professional interchange. Furthermore, the dentists will be supported and served by well-trained ancillaries with a widened array of skills. He will as his title indicates become a teacher and motivator as well as a clinician sensitive to subtle changes in oral homeostasis.

The typical dentist in 1985 will remain an independent practitioner of dentistry, tending however toward voluntary association into multi-disciplinary group practice. He will have an expanded supervisory and managerial role including a wider spectrum of ancillary personnel to relieve him of non-critical chores associated with oral health care. Freedom from non-critical chores will relieve the time and energy demands upon him to the extent that he may devote his time and talents to

—providing more competent service in the critical areas of dentistry, such as diagnosis, treatment, planning, evaluation, and maintaining homeostasis of the oral environment including occlusal harmony;

—taking advantage of opportunities for self-renewal;

—assuming a larger more meaningful role in promoting community health through interdisciplinary, interagency, and governmental efforts.

To be sensitive to and responsive to these changes, higher education must provide

- —expanding educational experience in behavioral sciences, group dynamics, administrative techniques, as well as in-depth understanding of biophysical systems;
- —effective utilization of trained ancillaries and a working knowledge and understanding of community action;
- —opportunity for self-renewal and continuing education;
- —graduate education in dental specialties;
- —programs for education and training of dental ancillaries.

In the next 15 years, dental care will be expected by an increasing population, a wider segment of the adult population, and the total segment of the child, youth, and elderly population. Based on current population projections for 1985, Georgia will need a net addition of about 300 dentists in order to maintain its present approximate ratio of one active dentist to every 3600 people.[12] Based on normal attrition through death, retirement, and outward migration, dental schools at Emory and the Medical College of Georgia will need to produce at least 1200 dental graduates in the next 15 years in order to achieve a net gain of 300. Additional dental auxiliaries needed to assist these dentists by 1985 will number about 1300.

The dental situation in Georgia requires immediate and concerted efforts in the efficient organization and delivery of dental services. Through effective recruitment and training, the educational resources of the two schools of dentistry must be continuously maintained at capacity in order to furnish the minimum number of graduates commensurate with a growing population.

A massive dual effort aimed at providing a continuous adequate supply of auxiliary personnel and training dentists in their optimum utilization is immediately necessary. The projected need of 1282 auxiliaries can only be achieved and maintained by a permanant statewide system of auxiliary training programs. If the professional longevity of female auxiliaries is about four years, then upwards of an additional 300 personnel must be introduced into professional employment channels each year even after build-up has occurred. Serious consideration should be given to the utilization of male auxiliaries who could be expected to have longer term usefulness.

In order to cope with the impending rise in demand for specialized services, every dentist must also be more thoroughly prepared in such areas as periodontics, pedodontics, prosthodontics, and preventive orthodontics. The principal focus should be on producing more genuine generalists than specialists. At the same time, there will be a rising need for dental specialists. For example, additional manpower will be needed to administer and execute a total program of fluoridation. The entire population of the state under the age of maturity must be granted the full benefits of fluoride through the various avenues presently available. This implies a statewide communtiy effort to fluoridate all municipal water supplies and where necessary to administer fluorides to school children and encourage the use of other fluoride modalities.

Although the major emphasis on dental care in the next 15 years will remain centered in the private dental office, a creative program must be developed for the institutionalized population of Georgia in which requisite services are provided either in a hospital or from a hospital base.

Nursing and Allied Health Manpower

Traditionally the nurse stood at the side of the physician as his main associate. With progress in medical science, technical duties became apparent, and an increasing variety of nursing activities emerged which departed from the traditional nursing function. Medical record librarians, laboratory and radiology technicians, physical therapists, operating room technicians, and inhalation therapists in the beginning were nurses. Gradually these specialties developed their own courses of training without the nursing prerequisites.

Still the largest sub-group within allied health manpower are registered nurses who have graduated from diploma schools, junior colleges, or baccalaureate programs. The other categories of technicians and assistants represent all levels of education. Almost four out of five health workers are women who tend to fall into two age groups—either late teens or late thirties and above.

Training below the professional level provided mainly by large hospitals has been of a short duration and oftentimes makeshift. Consequently there is little job mobility and a high rate of turnover. In recent years though, efforts have been made to expand and upgrade training opportunities through vocational education, junior colleges, and newly established schools of allied health. The concept of common core curriculum is being explored and should contribute to horizontal and vertical mobility. Furthermore, the federal New Careers program is stressing on-the-job training for unemployed or low-income persons in entry level jobs with flexible prerequisites and built-in mobility features.

> Leaders in education are recognizing the limitations of ad hoc programs designed in response to existing demands for workers. Education that is focused on one-level jobs rather than career development restricts the employer's ability to reallocate work and inhibits the worker's mobility. Such preparation may be of particular disservice to those trained, if their training is neither transferable horizontally to other occupations nor linked to upgrading sequences.[13]

Because many positions in the allied health field are filled by young females, the work pattern tends to be training, entry, dropout (to raise families), and reentry. Thus an important manpower source is the reentry pool of older women. The development of retraining or refresher programs for this supply source is essential if we are to fill the needs for allied health personnel. Concurrently, employing institutions must develop flexible work schedules if retrained and refreshed personnel are to be attracted back into the labor force.

As health care becomes increasingly complicated, additional—but coordinated—specialties in nursing and allied health professions will emerge. To assure optimum care, health teams will be distributed widely and conveniently. As a function of better management, service may be provided on a 24-hour-a-day basis to provide rapid diagnosis and emergency care.

Education for health careers should be structured so that capable individuals can move up the career ladder. Thus, the two-year nursing or technician graduate may practice for some time and then decide to pursue a four-year collegiate program. Institutions providing such education will structure open-ended curricula, grant credits for appropriate professional experience, and in other ways facilitate individual career development. Such educational innovations will aid retention of skilled persons in these health professions.

The numerous different levels of health professionals must take cognizance of health care realities. Individuals trained for advanced skills should not devote effort to duties that can be managed effectively by those with less training. The economics of health care can thus be faced, at least as far as manpower usage is practiced, so that patients will be managed at different stages by individuals with adequate training but no more training than necessary.

Much of the nostalgia associated with health care will have to be discarded. Patients will receive attention by physicians and dentists only when such highly skilled persons are required to establish diagnoses, to provide complex therapy and rehabilitation, and to assure over-all adequate patient management. Most of the care patients receive in the health care delivery system of 1985 will be provided by new professionals derived from nursing and allied health sciences.

Also by 1985 among the new professionals, will be found persons who can be viewed as assistant physicians, trained specifically in the clinical specialties, including family practice. Among other duties, such trained persons will make home visits, becoming in this sense the primary contact practitioner.

Educational Implications

At face value the rate and variety of the scientific and technological changes in medicine seem enormous and render hopeless the task of planning for the future. In the 15th century, Machiavelli wrote that half of men's actions are ruled by chance and the other half are governed by men themselves. In the 20th century, man has rejected the notion of the future as history and instead attempts to guide his own destiny. Technological advances and a growing body of scientific knowledge have facilitated speculation as well as rational planning and programming to achieve a desirable destiny. In this context, there are discernible trends in the health field that may help education shape health care 15-30 years hence.

Assuming no radical changes in current migration patterns (in and out) of senior professionals, the graduation of new physicians and dentists within the state between the years 1970 and 1985 should result in maintaining current approximate ratios of physicians (1 to 1100) and dentists (1 to 3600) to population with some hope that the dentist ratio will improve. It should be noted that these ratios are not impressive when compared to the rest of the nation, and they obscure the even more disturbing matter of the uneven distribution of these resources within the state. The demand for health care services has increased faster than the population and will continue. A population increase of 20 percent may well be coupled with a large increase in the demand for health services because of federally sponsored programs for the very old and the very young and continuing relative affluence and general awareness of potential services. An increase in demand on the order of 50 percent seems much more probable than the 20 percent due solely to population increase.

Although a radical break from the traditions of the past in medical and dental education may result in the preparation of large numbers of these senior professionals, it is most unlikely that they can cope with anticipated demands without the assistance of much larger numbers of allied health personnel. *No part of the educational system of the state can escape being involved in this area of health.* At a minimum, senior professional schools must be concerned with producing physicians and dentists, who in addition to possessing all the technological scientific, and humanitarian competence now expected of such professionals, also must have administrative and managerial skills that will permit them to lead the activities of many allied health practitioners in the delivery of expanded health care services.

While the practice of medicine is rapidly changing, so must health education change in order to adequately prepare new professionals to keep pace with social as well as medical developments. Consequently, we shall see accentuation of the following trends between now and 1985.

- curriculum reform, integration of the biological and clinical sciences with earlier patient contact
- more emphasis on the behavioral sciences, better enabling a student to treat the patient as a whole person
- greater responsibility placed on student in the process of learning,

more electives and independent study

- disappearance of the internship with direct entrance into residence from medical school
- more student involvement and participation in curriculum design and governance.

The proliferation of allied specialty fields with consequent lack of job mobility is a problem that should be confronted by educational authorities at the vocational and junior and baccalaureate college levels.

As stated by Greenfield in *Allied Health Manpower: Trends and Prospects*

> One of the most important barriers to optimum utilization of allied health personnel is overly rigid separation between types of workers. This is reinforced by professional organizations of each type of worker, by separate training facilities, and by outdated laws and anachronistic customs. Among the consequences of the malutilization are deadend occupations, high turnover rates, job dissatisfaction, and higher operating costs.[14]

Educational authorities, in conjunction with manpower leaders, have the responsibility and opportunity to begin developing a new career structure in the allied health field. Meeting this challenge will require the recasting of the many (more than 100) jobs in this area into a set of career and subcareer fields that facilitate horizontal and vertical mobility for incumbents. Concurrently, the training and educational programs necessary for initial job entry and subsequent advancement need to be developed. Tightly job focused, as well as more general educational experience, will probably be necessary at levels ranging from high school and vocational training through junior and baccalaureate levels and perhaps including some graduate work.

Although the effort to develop such a program would take two to three years and cost several hundred thousand dollars, implementing costs should not be great. Perhaps the greatest problem would lie in obtaining cooperation and assistance from the various professional groups who would have some interest in the matter. Such cooperation would be absolutely necessary to insure appropriate accreditation of educational programs and, where necessary, revisions in professional practice acts.

The initiative on these matters, however, rests with education. It is the responsibility of education not to let itself be cast in an outmoded or inappropriate role by simply yielding to the professions, potential employers, or other social pressures. Neither must it remain tied to its own traditions. Educational institutions must take the lead in determining their relationship to the world of health care.

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TABLE I

	Estimates for 1969	
MEDICAL		
Physicians	317,000	
Other independent practitioners (including optometrists, pharmacists, podiatrists, clinical psychologists, clinical social workers)	183,000	
Allied Medical	500,000	
		1,000,000
DENTAL		
Dentists	100,000	
Auxiliary dental	145,000	
		245,000
NURSING		
Registered Nurses	680,000	
Licensed Practical Nurses	350,000	
Assistants	1,000,000	
		2,030,000
ENVIRONMENTAL AND OTHER (Environmental Health, Information, Library, Veterinary, etc.)		425,000
TOTAL EMPLOYED IN HEALTH OCCUPATIONS		3,700,000

SOURCE: "Allied Medical Education Newsletter," American Medical Association, No. 20, August 1, 1969, p. 3.

Dr. Harry O'Rear is president of the Medical College of Georgia. He was awarded the degree of Doctor of Medicine in 1943 by the University of Pennsylvania and served his internship at Watts Hospital, Durham, N. C.; from 1946 to 1949, Dr. O'Rear took his residency in pediatrics at Duke Hospital in Durham. He joined the Medical College of Georgia faculty in 1950 and served as Professor of Pediatrics and Dean of the School of Medicine before being named acting president in 1958 and president in 1960. Dr. O'Rear is a member of Phi Beta Kappa and Alpha Omega Alpha.

critique:

Perspectives on Health Care: Georgia 1970-1985

By P. K. Dixon, Jr., M.D.,
General Surgeon, and Former Chairman of the State Board of Health

THE paper, "Health Perspectives," by Dr. O'Rear is well organized and arranged, comprehensive, knowledgeable and should serve as an excellent source. Comments on this paper will be used to intensify areas of agreement reflecting to some extent personal experience, background, and philosophy of a practicing physician in a small town and also to focus on a relatively few areas of difference. In addition, an attempt will be made to emphasize certain problems or opportunities which will be directly affected by actions of those in the field of education. There is concurrence in regard both to policy and projection for the bulk of the thesis. One should keep this in mind so that the following spotty emphasis will be understood as such.

Forces of Change

Massive forces of change exist in recent federal law aided by rejection of the concept of charitable care. In the Medicare and Medicaid programs financing of part or all of medical care for the elderly and those on public assistance has been effected. Inevitably these programs will be expanded, demands for services and costs will rise and blame on practitioners will increase as more and more control over medical care is grasped. Voluntary accrediting agencies will start medical audits and will become more stringent in order to survive. Insurance companies will attempt to emulate federal programs. Private hospitals will increase tailored services for maximum benefits from federal programs. Chronic care facilities will increase rapidly, but will remain primarily dependent on government subsidy.

Medical Manpower

Many more doctors are needed, and the need will be accentuated as more and more doctors seek insulation from the public masses by hiring Emergency Room physicians, by locating in towns where there are hospitals with residency programs, by specializing, by working in teaching centers or in governmental or industrial positions. Thus the maldistribution of doctors will be aggravated with even more becoming specialists and going to the urban centers. Almost 20 percent of physicians licensed yearly are graduates of foreign medical schools. Generally the quality of their school training as measured by certain standard tests is said to be inferior to training received in American medical schools. A large part of patient care in Georgia hospitals is given by foreign doctors. Proposed federal legislation if passed will elimintae this physician brain drain from undeveloped countries and with it much of this country's supply of doctors.

Existing federal law and change in public expectations aided by labor unions, their organizations, and the government has caused an increased demand for medical services. The doctor's work week went from 60 to 63 hours in the past year, and he spent less time with each patient. However, increased paperwork, administrative duties, and the increasing cost of malpractice insurance will decrease his productivity. Although group practice is advanced as a method of increasing efficiency in this area recent studies show that the solo practitioner sees more patients, works longer hours, orders less lab and x-ray work, and charges less than his counterpart in group practice. Prepaid group practice will probably decrease hospital use but otherwise except for those located in disadvantaged areas will not attain the expectations presently held by many for reducing cost. However, they should offer good, quality, comprehensive readily available (but to limited groups) care. In addition to the demand for needed medical services, there is definite overutilization by patients on government programs, a certain portion of which is and will be impossible to control.

Our present medical schools in Georgia are training doctors to be specialists. Fragmentation and overspecialization and too many specialists exist already. In addition, Emory Medical School trains a high percentage of out-of-state students. There is underway a commendable increase in enrollment in the two medical schools in Georgia, especially at the Medical College of Georgia. But 90 percent of their graduates have been influenced to become specialists by the full-time specialist faculty of these schools. This overspecialization makes it hard for many people to have a personal physician, and increases the existing maldistribution of physicians and imbalance in doctors and hospitals. The general practitioner is considered inferior by these faculty members, and the medical school producing GP's is also looked down on. Such schools have a difficult time obtaining Federal Research Grants which are now the financial heart of the medical schools. Allied health professions need strengthening, but the crying manpower need is for more doctors located away from large urban areas and in particular, more personal physicians. Substitutes, assistants, or subprofessional specialists are not equal to the real thing and if the conclusion reached by Dr. O'Rear is valid that "most of the care patients receive in . . . 1985 will be provided by new professionals . . ." We will be worse off than I now believe we will be. Some medical schools such as the Universities of Tennessee, Kansas, and Oregon have narrowed and deepened the scope of general practice and some 50 percent of their graduates now become able personal physicians.

In Georgia we need further expansion of our existing schools with a strong Chair of General Practice in each. A more urgent need is a third medical school oriented toward supplying more family doctors. General practice residencies with emphasis on internal medicine are sorely needed. Training another specialist to go to Atlanta will not help the doctor who replied when I asked him recently to go to a meeting with me, "Hell, I don't have enough time now to practice half as well as I know how."

We also need expansion and strengthening of our postgraduate programs, with encouragement of clerkships in Georgia hospitals during part of the medical student's senior year, thus increasing his chances of staying in the State.

Nurses

Increase, change, and best utilization of allied health manpower are also dominant needs, but comment will be confined to nurses to whom we all owe more than I have ever seen expressed. There are licensed practical nurses (presently from vocational schools in large part), associate R. N.s (two year college program), diploma nurses (R. N.s with three calendar or academic years of hospital based school training), and degree nurses (R. N.s with a four year college degree). All are needed. Presently 87 percent of R. N.s are graduates of the diploma schools which still produce the majority of registered nurses. All diploma schools now have association with a college, obviating to some extent lack of faculty skills. They do represent an indirect cost to the patient in the training hospital which is more than offset, in my opinion, by the increased quality of patient care through their presence, actions, and influence. These schools are being pressured at the present time by actions of some educators. They can survive and contribute greatly to the quality of medicine in Georgia if the University System would offer consultation, sharing of faculty skills and voluntary standardization so the diploma school would not be considered terminal education so that continuation to a degree in another school could be done without much penalty and so transfer of credits would be much easier from diploma to degree schools (as is presently being planned from associate R. N.s to degree schools). Similar core curriculum should be arranged whenever possible between L. P. N. and associate R. N. or R. N. training. The policy of denying affiliation of a diploma school with a state-run school as has been done should be reversed.

Mental Illness

Five percent of the present medical school curriculum is devoted to mental illness. Over 50 percent of illness is mental or combined mental and physical illness, and 50 percent of the hospital beds in Georgia are occupied by mentally ill patients. Medical school training will undoubtedly change. In the past mental illness has usually resulted in prolonged disability. New psychrotropic drugs, environmental control, treatment immediately and close to home with as little disruption to job and home as possible and with early and adequate rehabilitation and follow up, social and psychological help will change the location and effectiveness of treatment and greatly decrease the need for and length of state institutional care. Foster home programs will be instituted.

Rehabilitation

Rehabilitation will play a greatly expanded role in the care of the mentally and physically ill. It will be redirected from being, in many instances, an expensive medical vendor system for transient illness (which could be paid for by the patient or other sources) to a prime source of support for the physically and mentally disabled person who can be returned to a productive life by medical help, job training, and job procurement.

Attitudes

Health perspectives in Georgia are not clear in many areas and will be governed to a large degree by the attitudes of the people. These attitudes frequently are more progressive than those of their leaders.

Adjustment of the naturally occurring fluoride in water has passed in each of the 12 referenda held in this state. However, fluoridation legislation has consistently been lost in the General Assembly. Many persons still are having pain and disability from the lack of fluoridated water.

About eight percent of the dental indigent needs are now being met in Georgia. The new dental school in Augusta with its integration of assistants, hygienists, technicians, and dental students will increase the needed supply of dentists and effectiveness of each. However, until the dental profession as a whole assumes the position that everyone is entitled to at least a part of the dental services available, I fear the outlook will be bleak. Technical advances, such as bonding agents, will radically lessen the time needed to treat many conditions.

Other attitudes are tragic and involve courts and legislative bodies as well as people. There is great need for control in the area of accidental injury and death. Too many times have I heard a call for the Emergency Room "stat" and have followed a trail of blood to a dying young man. Too many times have I had to tell a distraught parent, "He's gone." Too many times have I been nauseated to the depth of my being by the unneeded tragedies which are the first cause of death in Georgia from childhood to middle age. I cannot approach this area of prime public health need without emotion.

Over 1700 people will be killed in Geargia this year in traffic accidents; 20 will be injured for each person killed; property damage will be some 400 million dollars. The attitude of many people in regard to the Viet Nam War is in marked contrast to their apathy regarding accidental deaths. This attitude of lethargy must be changed and can be changed only through education. The 55 dollars necessary to furnish a good driver education course to every high school student must be provided. The drinking driver, responsible for the majority of fatal accidents, must be removed from the road. The rights of a citizen to drive in relative safety must be protected by adequate law enforcement involving both the courts and police, by better traffic records, and by taking action as in Sweden, where prohibitive fines and jail sentences are applied without exception to the rich and poor for driving while drinking.

The injured patient's care must be improved by trained accident personnel, fast transportation including helicopters and improved emergency hospital facilities. There must be safer automobiles and safer roads. Some deaths can be prevented by the adoption of compulsory liability insurance or passage of a law requiring a prorata payment for the uninsured prior to licensure. This area is one of great potential for education.

Attitudes will also determine to a large extent the course of the epidemic of heart disease which is the leading and steadily increasing cause of death among males in their most productive years. People must be educated and psychologically conditioned to follow an adequate diet, to exercise, not to smoke, and to accept and apply forthcoming discoveries.

Preventive Medicine

Increasing the unity, quality, quantity, comprehensiveness, and delivery of health services is important. Preventive medicine, especially in the public health environmental field, is of the greatest significance for us in maintaining for all and increasing for many the "quality of life." Control of pollution of food, shelter, air, water, land, and sea whether by noise, heat, chemicals, radiation, bacteria, solid waste, or congestion must be effected. The family must function as a viable unit in all strata of society. There must be a recycling rather than a "use and dispose" economy. There must be increased guards against actions, use, or buildup of substances harmful to humans or the ecological balance of nature. Short term economic gain must not cause long term degradation of life. Without these actions, as evidenced by present news reports on the rapid increase in emphysema and bronchitis, on the beginning extinction of the American eagle, on the heavy concentrations of DDT in polar bears, and on the death from smog of millions of trees in a National Forest 60 miles from Los Angeles, there will be no happy perspectives for health in Georgia in 1985. The aggregate of environmental insult is mounting rapidly and soon will be irreversible unless the total environment is considered in all endeavors.

Family planning must be advanced now. Educational forces have the ability to do much for the generations to come. One survey indicated that 82 percent of the last pregnancies in the two lowest social groups were unplanned and unwanted. Eighty-five percent of a different group with unplanned and unwanted pregnancies were anxious and willing to have contraceptive advice. Seventy-five percent of the 732 women on welfare in one group who enrolled in a birth control program were still taking the pill two years later. Among these 550 women no pregnancies had occurred though previously they had a total of 3,444 pregancies. In an area of my town picked for inclusion in a Model Cities Program, 40 percent of the births were illegitimate last year. Certainly, nearly all of these children would not be born if the mothers knew how to prevent their births.

Dr. O'Rear commented on prenatal mortality. The greatest cause is lack of birth control. He commented on the present magnitude of malnutrition (with which I agree in most respects) and the likelihood of an increased problem in the future (with which I do not agree). Here again the greatest cause is too many children.

If we expect to have a husband in the home, a healthy wife and children who are nurtured emotionally, mentally or physically; if we avoid physical privation and mental anguish among the poor; if we eliminate the majority of physically and mentally handicapped and deformed children in our state; if we decrease criminal abortions; if we lessen the present social turmoil; if we do not want one generation after another who "belongs to the welfare," then we must have effective family planning.

Education

Education should aim to create a culture with a high value for fitness and health and with recognition of the need for individual personal medical supervision and care. It should teach and motivate the individual while still young to act safely, to avoid harmful substances, and to understand and support those programs of environmental and family control necessary to prevent his and his posterity's disability, death, or good quality of living. It should structure training to allow for advancement without penalty in a given health field and should strengthen all existing areas of training, whether or not they are primarily under educational control. It should greatly increase the number of doctors and nurses trained in Georgia. It should increase its continuing education in health fields and should offer acceptance and should coordinate and consult with health officials at a high level regarding areas of combined action—planning, legislative, or administrative (though a coordinating body for health is needed). It should intensify efforts in the public schools to inform students of the exciting and varied possibilities of careers in the health field.

Apology must be given for the enlargement of certain narrow areas and the ignoring of many others in the excellent, comprehensive study on which I was asked to comment. Basically I am optimistic regarding health perspectives in Georgia. As the people realize health values more and more, they will lead the health professionals, educators, and legislators into a larger and more comprehensive program with higher quality and better delivery of personal care. Preventive medicine will be greatly strengthened and expanded to the point of primacy it deserves. And education can do much to make this happen.

critique:

Perspectives on Health Care: Georgia 1970-1985

By J. Gordon Barrow, M.D.,
Director,
Georgia Regional Medical Program

THE position paper prepared by Dr. O'Rear is a scholarly summary of a very complex subject. It is an excellent projection of what may be expected in the next 15 years in the health care field, and I have no major areas of disagreement.

There are a few areas which I would like to explore and some supplementary comments should be made. I would like to emphasize that there is a larger quantity and a higher quality of medical care being delivered to the population of Georgia today than ever before. This is not only true as a whole, but the amount of health care being delivered by each individual practitioner has greatly increased in the past 15 years and is likely to continue to increase at an even more rapid rate in the next 15 years because of the technical advances that are being experienced. Even in rural and poverty areas the amount of health care being delivered is far greater now than it has been in the past. However, expectations in these groups, as well as in the general population, have led to some dissatisfaction with medical care as it exists. As a result, there will be a dedicated effort by the medical profession in the next 15 years to increase the amount of health care that can be delivered to the population and to seek a better distribution of this health care to all people. Emphasis will certainly shift away from acute care to preventive medicine and health maintenance.

In order to provide this marked increase in health services which is going to be demanded in the next 15 years, not only must we increase the number of new health professionals graduated from our schools, but we must also provide comprehensive continuing education programs for all segments of the health profession so that each can use their skill with the greatest efficiency.

Another area of increasing importance is the rapidly increasing use of bioengineering and computer techniques in medicine which will require a much greater interrelationship between the medical and the engineering schools in the future as techniques become more and more complex. The availability of a team of technical experts within the major hospitals of our state will become a necessity. For this reason, institutions like Georgia Tech must provide new and expanded training programs for both professionals and sub-professionals in this field.

Additional emphasis will be placed in the future on maximum economy and health care. To date, there have been very few incentives for hospitals and other medical institutions to operate in the most economical manner. During the next 15 years the maximum economy in health delivery will be increasingly emphasized by third-party payment sources. It is my opinion that increasing use of outside systems analysis will be required by the third-party payers with incentives for the recommendations to be followed by the health service institution.

The demand by physicians and their families for more time for their pursuits other than professional has resulted in an increase in the emergency medical care being delivered at hospitals at times other than the regular physicians' office hours. This has already resulted in the increase in the full-time salaried physicians who staff these emergency facilities, and I would predict that this will markedly increase in the next 15 years and that by 1985 the majority of emergency services will be handled by the local hospital and its physicians on duty. Because the house call is an inefficient and expensive use of a physician's time, it also is decreasing and is being gradually but steadily replaced by home care services; by 1985 there will be organized home care programs to take care of most house calls which would have been made by physicians in the past.

Dr. O'Rear has emphasized repeatedly the necessity for increased numbers of allied health professionals in all areas of medicine. He has also emphasized what I believe to be the key in this matter; that is, the development of a career-ladder concept so that those beginning at sub-professional levels can have both vertical and horizontal mobility. If this is to be possible, our educational institutions must develop to the fullest the core curriculum concept as well as the concept that professional experience in an area should be given some credit toward a higher degree in that area. It is my opinion that in the next 15 years testing methods will be developed to enable health professionals to pass from one level of training to another more rapidly and without the necessity of all the academic courses now required. It is in this area of career mobility that I feel a tremendous effort should be spent by the educational institutions in the next 15 years.

During the next 15 years emphasis in training at the medical schools will shift from the very marked emphasis at the present time on acute illness more to the prevention and health maintenance aspects of primary care. The concept of a primary physician who will assume the role that the general practitioner and internists have assumed many times in the past is one which will grow. I would predict with Dr. O'Rear that the medical curriculum will be drastically changed in the next 15 years, with patient experience coming much earlier in the training. The internship will give way to residencies in primary medicine or in the various specialties, and I would further predict that these residencies will become advanced degrees to be offered by the medical school or university rather than being based entirely in hospitals as they are at present. Numerous hospital affiliations will probably be developed by each medical school as these advanced degree programs are developed. I believe that there will also be some realistic restriction on the numbers of the advanced degrees that will be given in certain specialty areas since this is the only practical way to avoid oversupply in some of these areas. Again, let me congratulate Dr. O'Rear for the fine job he has done in his position paper.

The Ecology of Georgia

By Robert B. Platt, Ph.D.

Professor and Chairman, Department of Biology, Emory University

ECOLOGY is concerned with the complex life environment systems of Georgia, as of the world. Ecology is providing, therefore, a scientific base and a way of thinking which is essential to every citizen for an understanding of the interacting effects of man's avalanching technology and culture with his environment and with himself. By providing means for placing our present values into better balance with all others, ecology has become a powerful humanizing force.

Ecological concepts and ways of thinking are essential inputs into public school, vocational, college and adult education. For example, the professional fields of medicine, environmental health, agriculture, engineering, architecture, landscape design, urban planning, commerce and industry are now beginning to build ecological bases and perspectives into their training, research and development, practice and product and public relations. One of the most urgent educational needs in the state today is the development of a strong public school program in ecology throughout all grades, not only as preparation for vocations and avocations, but for the necessary inputs into decision making processes at the polls and in home and community affairs. At present, ecological training in Georgia public schools, with few exceptions, is at a low or only token level.

Because of present tight commitments throughout the state for existing educational activities, a strong program in public school ecology should originate within the State Department of Education and its initial costs most likely provided for as a line item in the Appropriations Bill. There is also a rapidly increasing need for technicians and specialists to handle the many activities associated with the quality of our environment.

ECOLOGY as a scientific discipline is a body of laws, concepts, and skills concerned with life and environment and their relationships with each other. But science is much more than a knowledge of things. It is an attitude or a way of looking at things and has risen out of man's intellectual curiousity. Therefore, ecology also is a perspective or a mode of thinking. When fully developed, it becomes a significance educational cornerstone for other disciplines of study and human activity. In this context I am referring to the universality of ecology. It embodies the unity and interdependence of all life with environment and the awareness, therefore, that man is an integral part of this vast interacting life system. No one aspect of his relationship to it can be pushed or squeezed out of balance without injury to the system and ultimate harm to man. Thus, in its broadest context, ecology has become an area of humanism and technology.

Ecology has matured as a scientific discipline only within the past two decades, but as a way of thinking, its roots go deep into man's origins on this planet. Both aspects are developed in this paper. On one hand it is important to know how ecology relates to the natural environment of Georgia—its plant and animal life, its rocks and minerals, its mountains, rivers and coasts—and on the other hand how it relates to Georgians—their perspectives and their ways of thought as well as action regarding their understanding and use of Georgia and its great resources.

Ecology as a Scientific Discipline

Life on this planet consists of some half million plants and one and one-half million animals. Their distribution and abundance is controlled by natural laws and is the result of countless numbers of environmental encounters which form the basis of their evolutionary development. As a consequence each kind of life today, as in the past, exists in the natural state in continuous balance with other life and its environment. Such balance is not achieved by chance but by the rigorous processes of organic evolution. These processes are so effective and universal that we rarely stop to wonder over the adaptation and tolerances of each form to its particular environment. Especially are we prone to forget that man too has evolved to his present state through the past several million years according to the same laws and processes. By means of man's recently acquired technological skill for manipulation of the environment, he has so systematically exploited it from frontier to frontier that now he must take a stand on what he has and learn to live with it or lose the battle for existence. Man, like all other life, cannot escape his biological heritage.

The unique contribution which ecology has had to science is the concept of the ecosystem. Ecology along with many other sciences examines life at its organizational levels of molecule, cell, tissue, organ, organism and population, but ecology is the only one concerned primarily with the total system of life and environment. Of all these organizational levels of life, the ecosystem is the only one capable of self perpetuation, provided it is given a source of energy—the sun. Any self-sustaining and self-regulating natural system, such as a pond, stream, forest or the planet Earth, is an esosystem.

Ecologists have in recent years developed the concepts and techniques which make it possible to experimentally and quantitatively examine an ecosystem as a natural unit of life in much the same way that the science of medicine examines a human being; yet the ecosystem, being independent of other life, is far more complex. A well balanced ecosystem is healthy; an imbalanced one is sick. And man being a part of an ecosystem must perforce enjoy or suffer the same fate.

The dynamics of an ecosystem are powered by the continuous flow of energy from the sun through the system and ultimately back to space. The sun's energy is captured by the functional part of the ecosystem known as the producers, which are the green plants. Through the process of photosynthesis, this energy is used to produce carbohydrates, and by associated processes, to produce the myriad kinds of plant foods which are the only source of energy for all life in the ecosystem. By intricate chains and webs, this food energy is passed along to the consumers, i.e. man and the animals, and then to the decomposers which are primarily fungi and bacteria.

However, the chemical elements such as carbon, oxygen, hydrogen, nitrogen, phosphorus, iron, sulphur, and potassium, which are derived from the physical environment, are in sharply limited supply and must be continuously recycled through the system. The hundreds and thousands of kinds of life which make up a particular ecosystem each have their own position and function and collectively provide a characteristic structure, i.e. a lake, woodland, desert or swamp. The distribution and abundance of each kind is regulated by the system. A measure of imbalance or unhealthiness of a system is provided by a shift in the abundance of given kinds or by a reduction of numbers of kinds, as is commonly determined for evaluating the quality of a stream.

Another significant measure of an ecosystem is its productivity, which is the amount of food it produces. Young ecosystems such as agricultural fields produce a relatively greater amount of food than they use in contrast to old or climax systems such as forests where that consumed is approximately equal to that which is produced.

Ecosystems have a remarkable capability for the repair of injury. A stream can cleanse itself of certain kinds and levels of pollution. A forest will reestablish itself if cut down and even waste areas, if left alone, will eventually turn green again.

The environment of all life then is ultimately determined by the complex interactions of the ecosystem. For example, the kinds, rates, amounts and intensities of materials supplied and/or interchanged with the organism, including man, is regulated by the system. While the development of any plant or animal is directed by its genetic characteristics, the extent and nature of that development depends on the extent to which the environment provides the proper conditions at the proper time and in the proper intensities and amounts. Man, too, like other life, is shaped by his physical, nutritional and sociological environment. Ecology as a science attempts to understand these processes and effects.

Human Ecology

Ecology is providing a solid and essential scientific basis on which man can build a happy and healthy life. But there is a great distance between an understanding of the science as such and the extension of its principles, concepts and attitudes toward all aspects of human society. The word "ocology" comes from the Greek "oikos," meaning habitation, a bonding of the hearth with the home, which to the Greeks was a symbol of unity between the good earth and all aspects of society. Thus by its very origin, ecology clearly and unequivocably places man as an integral part of nature.

Through the past centuries man has slowly but surely separated himself from his natural environment and, in the recent crescendo of technological triumphs, he has reached his ultimate heights of folly in asserting his domination over a hostile nature. Chemical control of disease transmitting organisms would solve our world health problems, while pesticides and industrial processes of food production could emancipate us from the land; environmental conditioning, even of large cities, and world wide climate modification would remove the vagaries of weather, and genetic manipulation of hereditary materials could create plants and animals and indeed entire races of people to our own liking. But these grandiose dreams have now faded as we face the technological shambles of overpopulation, pollution, insufficient waste disposal and urban stress. Out of this unprecedented confrontation with nature, the cold realization has emerged that man is neither superior to, nor even separated from, nature but that he is an integral part of it. Examples follow of the use of human ecology to fulfill the needs of human society.

Environmental Health. Economic affluence, population growth, urbanization and technological expansion are the four basic factors that are bringing new problems and dimensions to the physical, mental, emotional and social health of man. The problem is not simply one of survival of numbers. The welfare of man's mind and soul are at stake. Man is shaped by his total environment from conception to the grave not only by immediate and direct effects but also by indirect and long range consequences. Our technology is causing alarming increases in various types of chronic and degenerative disorders. From the physical environment, three quarters of a ton of toxic materials per person per year are dumped into the air we breathe; an average of three pounds of chemical food additives are ingested annually by each person, this being in addition to the ingestion of pesticide residues and traces of veterinary drugs which occur in meat, milk and eggs; over two million Americans are stricken each year from microbial contamination of food; and one person out of four drinks water not covered by the U. S. Public Health Service standards. Many prescription drugs produce unforeseen side effects. Radiation from radionuclides and X-rays, TV and microwave ovens and industrial uses of atomic energy are serious threats not only to our own but to future generations.

The significant increases in disease cannot be comfortably explained on the basis that more people live longer. Data from the Rockefeller Institute show that life expectancy past age 45 has not increased significantly. For infants the mortality rate for this country has dropped from sixth in 1950 to fifteenth in 1961 among the nations of the world. Mental stress, crowding and regimentation add their toll. An environment, then, which allows a man to produce a family and to be economically effective should be unacceptable if it generates disease at all stages from prenatal to old age. Disease prevention through ecological measures must take its place along with the current preoccupation of medical science, which is remedy and repair of those who are already sick.

Economics and the Landscape. The development and exploitation of urban and open space landscapes have been dominated by the drive for economic profit and a disdain for nature. These have brought great benefit to man, and in large measure their deleterious effects could be tolerated until we began to feel the smothering effects of technological wastes and population pressures. The American pioneer found a vast and rich wilderness which seemed endless and inexhaustible. Our whole history has been one of conquering the land, cutting the forests, draining the swamps, silting the rivers, thinning and chemically impoverishing the soils and depleting the ground waters. In truth, through all of this, we have mined the great natural resources of this country from one new frontier to another; New England to the South, the South to the Midwest, the Midwest to the West and now from arable lands to the arid regions of our country. Along with this economic determinism, there developed a serious deficiency in our Western civilization in the form of an attitude first of conquering rather than living with the environment, and with recent technology, the arrogance of seeming independence from nature.

Now there is not a drop of water or an acre of land on this planet free of pollution. Clumsy, inhumane expressways take us to work through smoke palls and neon signs to even more inhumane factories and office buildings. The visible evidences of the American economic creed are the hamburger stand, the gas station, the subdivision, and everywhere the solid wastes, the rivers as open sewers, the noise, the lack of privacy and the blunting of the human spirit. What of the open areas? Try to find them. Yesterday's suburbia is today's slum. Only the fortunate few can escape to the mountains or the seashore and, as more congregate there, the same patterns of crowding and ugliness emerge.

There is general agreement today that these conditions must change for Georgia as well as for the nation, not just for survival but for the restoration of a healthy environment. The task can be accomplished by the application of ecological principles to urban and rural planning. At the heart of this is a change in our value system, from one which is dominated by economics to one which recognizes the values of all facets of human society. The highway is a prime example of this. We allow highway engineers to plan expressways based primarily on the construction and maintenance costs and the moving of traffic without the equally important inputs from economists, geologists, ecologists and air and water pollution experts; also, environmental medicine, urban housing, scenic, historic and recreational values, irreplaceable natural resources and landscape design should be considered. A balance sheet should be made of all costs to society, both direct and indirect, with decisions based on a total systems analysis rather than a piecemeal analysis.

The development of large rural areas for housing is particularly adaptable to ecological planning. Ian L. McHarg, one of America's foremost landscape planners, has set forth some basic principles. He begins with the assumption that development of open space near urban centers will occur. Uncontrolled growth of open space is inevitably destructive. Controlled growth must conform to regional goals. Observance of ecological principles not only can avert destruction but can enhance the environment. Planned growth is therefore more profitable. The plans should be based on in depth studies of all pertinent factors which include traffic flow, economic stability, present land use, surface and subsurface water supplies, topography, bedrock and surface geology, ecological associations, soils, wildlife, recreation, and scenic and historical features. Only a few such studies have been carried out in this country and none of this depth in Georgia.

The Ecology of Georgia Today

The ecology of Georgia, therefore, is not just a study of its forests, streams, and renewable natural resources; it is also a consideration of Georgians and their relationship to their total environment. This section attempts to characterize the ecology of Georgia as it exists now.

The Ecological Gap

On the plus side, Georgia possesses the basic physiographic features and natural resources of a magnificent state. Its enviable diversity of landscapes and physiographic features extend from the southern Appalachian Mountains across the Piedmont Plateau to the Coastal Plain and the Atlantic. Its forests and woodlands, its sparkling streams and green water lakes, and its golden isles are unexcelled in this country. Georgia's temperate climate provides for mild winters and pleasant summers, with prolonged and delightful intervening seasons of spring and fall. By having predominantly an agricultural, commercial and light industry economy, along with smaller population pressures, it has escaped the ravages associated with the heavily industrialized and highly populated states to the north. Thus looking at the state as a whole, Georgia today does not have the tremendous uphill battle of restoration of its natural resources with which many other parts of the United States and the world are faced.

On the debit side, adverse industrial and population pressures are rapidly increasing; serious threats and encroachments are occurring day by day on many of our streams, forests and coastal resources; some streams and rivers have become open sewers; and every year more and more segments of Georgia are needlessly and often wantonly despoiled by poor planning or, more often, by the selfish planning of single-minded economic forces.

The real losers are the people of Georgia. The tragedies of inadequately planned urbanization include slums, choking traffic, drastic increases in mental disorders and crime and the rape of irreplaceable natural resources and open spaces. Along with this is the imporverishment associated with rural communities. These are representative of the many disorders which are bringing to a majority of Georgians a continually increasing loss of identity and dignity. And what of affluent Georgians, those with manicured yards, three-car garage and a mountain hideaway? They too get the full environmental effects of the commuter's daily fare of frustration and exhaust fumes, improper diets, the continuous ingestion of food additives and pesticide residues and the boredom of suburbia, all of which are suffered in the name of economic prosperity and paid for with chronic mental and physical disorders and degenerative diseases. This gulf between the high quality of our ecological resources and the low quality of human ecology I am calling *the ecological gap*.

The bright side is that with a change in our value system from man-centered to man-environment centered, and from a yardstick of direct prosperity to one of multiple social concern, the rewards are even greater prosperity along with a happier and healthier life. Not many thoughtful persons today would contest this philosophy. The problem is being increasingly sharpened and identified to the point that there is now general agreement that indifference to these problems will lead to self destruction.

Georgia is fortunate in having a rapidly increasing number of civic leaders, legislators, government officials, educators, business men and citizens who not only recognize this ecological gap but who also are developing action programs to halt its spread and in time to begin to close it. There follows a brief account of some of these activities. This account is admittedly incomplete, for a detailed documentation would go far beyond the scope of this assignment. Also there is an inevitable overlap within the 20 areas designated by the Commission on Educational Goals, and this report, it is hoped, significantly interrelates with many of them.

Environmental Contamination

Every part of Georgia and every Georgian is contaminated with the products of our civilization. And in retrospect we can figure out why, the reasons being a combination of technology and economics on the one hand and ignorance and apathy on the other. But in very recent years the situation has rapidly changed in that science is documenting the cause and effect relationships, technology is providing the means for control and reduction, the state and federal governments are beginning to provide pertinent legislation and an informed and aroused citizenry is leading the fight for an effective pursuit in all these areas for maintaining and improving the quality of our environment.

This is an area which calls for concerted action on the part of every Georgian, for not a single one is exempt from responsibility for its happening, just as not one is exempt from its deleterious effects. Hard questions must be asked. For example, should the farmers of Georgia use residual broad spectrum pesticides such as DDT, in lieu of equally effective narrow spectrum nonpersistent ones? The gain is measured in slight percentage savings to the consumer from reduced costs of insect control. The offsetting costs are measured in damage and loss to wildlife, fish kills, increased pesticide ingestion by man and a long deterioration of the land by the pesticide effects on soil microorganisms which are essential to maximum fertility. The same question may be asked of industry, whose price savings from lack of proper air and water control is offset many times by the ultimate short and long range harm to man and his environment.

But the consumer must also take a large share of the responsibility. The "John Doe" citizen has not yet indicated his willingness to pay the costs of pollution control through higher prices and higher taxes. Thus the solution in large measure must come through a drastic increase in educational processes at all levels, built on the momentum now geneated.

Water Pollution. Georgia initiated a statewide effort against pollution of its water by enactment in 1964 (and as amended in 1966) of the Georgia Water Quality Control Act. This provided for the creation within the Department of Public Health of a division for Georgia water quality control and for a State Water Quality Control Board. Under vigorous and able leadership, the Board has made substantial progress. Yet, it is estimated that, because of serious financial restrictions at the current rate of improvement some 17 years would be required to correct existing deficiencies. Since substantial demands are added every year, the outlook for desired water quality for Georgia would be dismal indeed, unless drastic steps to improve the situation could be anticipated.

When the impressive accomplishments for 1968 are cast into perspective with the debits, the following picture emerges (1968 Annual Report of the Water Quality Control Board). Although 4.7 million dollars in PL-600 construction grants were certified for 22 municipalities and counties, a backlog of 65 qualified requests for 28 million dollars remained unapproved for lack of funds; a nine million dollar construction program left a 62 million dollar increase in the net backlog of 275 million dollars; a cumulative total of 429 certified pollution control plant operators is offset by an estimated 1172 yet to take or pass the test; although adequate sewage treatment was provided for an additional four percent of the population, 58 percent of the state's citizens are still without adequate facilities; and while a cumulative total of 200 million gallons per day of industrial wastes have been brought under control, at least that many more were not being treated by the year's end. On the legislative side, a bill requiring the examination and certification of water and waste water treatment plant operators failed, and a request to the Georgia General Assembly for 7.5 million dollars in construction grants was not approved. It should be noted, however, that the operational budget was increased.

Other generalizations emerge. The demands for water are rapidly increasing; the metropolitan area of Dalton, for example, with 30,000 people, uses 34 million gallons per day. Water quality in Georgia is closely associated with the relative concentrations of people and industry. Away from these concentrations our streams and lakes are relatively clean. Georgia fortunately does not have "working" rivers like the Delaware, Ohio or Hudson. Yet, each river and river basin is a unified system. Each part must be evaluated in terms of the other parts, and in response to all aspects of human values and needs. The Water Quality Control Board is developing a total ecological approach to these interacting systems, and thus, despite the crippling effects of lack of funds and substantial public apathy, is making the basic studies and elucidating the principles and criteria requisite to a high water quality for Georgia. An appreciable segment of industry is also taking a responsible approach as are a number of counties and municipalities, through close working relationships with the Board. Since the Water Quality Control Board represents one of the best efforts of the state to improve the quality of Georgia's environment, its reports and activities should be understood by all thoughtful Georgians.

Pesticides Georgia has not enacted any legislation for the regulation of pesticides, herbicides and other such chemicals, nor to my knowledge has any been introduced into the Legislature.

Needed at present is the enactment of strict controls and in some cases bans against the use of persistent broad spectrum pesticides and herbicides in the state. Equally effective alternative measures are available. These chemicals have deleterious effects on many more beneficial forms of life than there are target organisms. Because they are not degraded, they stay around for years during which time they may be transported great distances, and by ecosystem cycling, moved and accumulated through food chains and webs from organism to organism.

DDT, the principle culprit, can now be found in every drop of water in the ocean and in every land mass in the world. The pesticide-herbicide industry defends these persistent forms on the basis that they are indispensible in many ways to food production and human health. The grounds for action are quite clear. First, there is now overwhelming and irrefutable scientific evidence of their danger; also there are other equally effective but less dangerous control measures which can be used, provided the public is willing to pay for their increased costs. An impressive number of state and federal governments have banned the use of DDT in the last year or so, and the number will probably increase at a rapid rate. Abroad, Sweden and Denmark have banned the sale of DDT, while in this country, California, Arizona, and Michigan have banned its use, the latter having an outright ban also on its manufacture and sale. Wisconsin is attempting to do so. The mosquito control commission of Suffolk County, Long Island, has suspended the spraying of DDT and many other municipalities have such action under consideration.

Georgia did withdraw the use of Dieldrin and similar persistent hydrocarbons following widespread damage to wildlife in its pork barrel efforts to eradicate the fireant over large sections of Georgia. However, on substituting a degradable pesticide, Myrex, the State Department of Agriculture promptly began the indiscriminate spraying of cities and towns, including Atlanta and Savannah. This was part of a multimillion dollar program to achieve what hard scientific evidence and common sense shows to be impossible—the total eradication of the ant. Since surrounding states long ago settled for a feasible control program at a fraction of the cost, it is curious that the Georgia Department of Agriculture still pursues this phantom goal.

With an agricultural economy and with the spotlight on municipal and industrial pollution, the equally serious problems associated with the use of pesticides, herbicides, fungicides and other such chemicals have not yet been brought forcibly to the citizens of Georgia.

Chemical control of noxious pests is essential to our economy. Therefore, the problem is one of an informed and reasonably regulated use versus an indiscriminate uncontrolled and uninformed use. This applies to home and garden as well as to agriculture and public health.

Several agencies in the state have taken positive action on air pollution. The Georgia Department of Public Health has had an officially designated program since 1961 but initially without legal power or responsibility. Under the Georgia Health Code of 1964, they were authorized to make recommendations on problems of air pollution. In 1967, the Legislature passed the Air Quality Control Law which created the Air Quality Contral Branch and a governing board within the Georgia Department of Public Health. (Chapter 88-9) Rules and regulations governing allowable emissions were promulgated by the State Board of Health in the summer of 1968.

The Air Quality Control Board has established an ongoing sampling network in the state and has performed many week-long surveys in large metropolitan areas. They have written over a dozen orders to offending industries and governmental groups in order to control pollution by the legal steps outlined in the law.

The Fulton County Department of Health has an air pollution control program with rules and regulations similar to that of the state. Bibb County has adopted its own regulations, also similar to the State Department's, and has worked in this area for a number of years. Chatham County has local personnel working full-time on air pollution control and has used county ordinances and the state's regulations to obtain abatement on several problems.

AIR POLLUTION AND FOOD ADDITIVES. These have their primary effects on people and are a part of one's everyday life. Not having data for Georgia, I will recall some figures for the United States provided by the Consumer Protection and Environmental Health Service of USHEW. These show that the 142 million tons per year of toxic matter released into the air over this country per year amount to 1500 pounds for every American. The use of food additives to impart flavor, color, and other qualities has increased 50 percent in the past 10 years, and each of us now consumes an average of three pounds of these chemicals per year. To this must be added traces of veterinary drugs which occur in meat, milk, and eggs and pesticide residues on food crops.

These pollutants have for the most part indirect and long term effects. Direct cause and effect relationships are difficult to establish. Tobacco smoke, an air pollutant, is one of the best documented, but it took more than the period of a generation smoking before the effects became manifest. Even so, the evidence is rapidly mounting which associates such pollution with many chronic and degenerative diseases. Of particular concern is the fact that experimentation in animals and observations in man have shown that the physical and mental development of the fetus and the newborn may be seriously affected and that such effects may persist throughout life. As an example, injection into newborn mice of particulate materials separated from urban air greatly increases the frequencies of various types of tumors developing during their subsequent adult life.

Again, the problem comes down to what measures we are willing to take to obtain cleaner air and cleaner food. The costs are measured in dollars and poor health, in inverse proportion.

Solid Wastes. Of all kinds of pollution, solid wastes are probably the most obnoxious to most people. Consisting of garbage, junk and litter, they accumulate endlessly, they require physical effort to handle, they assail our nostrils, insult our eyes, dig deep in our pocketbooks, are the bane of politicians and above all else they invade our privacy and blunt our soul. Even though we may become somewhat accustomed to the daily chore of garbage disposal, our anger and horror is being increasingly aroused at the sight of roadside dumps, auto graveyards and the ubiquitous beer can. Solid wastes are accumulating at the rate of 1600 pounds per person per year and the annual tab for disposal exceeds two billion dollars. The needs for ecological planning are nowhere more evident than here.

Solid wastes include not only the output of households and municipalities, but also discards of business, industry and agriculture. Although not now considered as serious to man's welfare as are gaseous and liquid wastes, there is a growing concern that in time solid wastes may become the greatest problem of all. The quantity and substance of these wastes are linked with national growth and technology as well as factors of geography, economics and public attitudes.

There are only two basic methods of solid wastes disposal—dumping and recycling. The former is a primitive method handed down through the centuries, while the latter is sophisticated and is just now beginning to receive widespread public attention. Since technology has solved the problems of producing and distributing to the consumer enormous volumes of materials, it should also be able to solve the problem of collecting, removing and disposing the waste residues. Some efforts are now appearing. These include new and sophisticated concepts of sanitary land fills, incinerators equipped with electrostatic precipitators, the composting of raw sewage sludge for reuse as a fertilizer and of particular importance to the individual, the use of degradable convenience containers in lieu of nondegradable materials such as glass and aluminum.

Technologically, the recycling of solid wastes ranges from such simple techniques as refillable glass bottles to the more complex reclaiming of ferrous materials from discarded autos. Another approach is the ecosystem method of reusing in a cyclic pattern the elements of earth, air and water which make up the organic world. Without this, the dead bodies of plants and animals would remain intact and the ground would soon be covered with such litter. An example of man's use of this method is the decomposition of sewage by bacteria and fungi under controlled conditions. Again, the issue is will society demand and be willing to pay for disposal of materials.

Radiation. Radiation as an environmental hazard is a growing threat to future generations. High energy radiation can penetrate the cells of the body, its most serious effects being on the chromosomes and genes. The function of genes is not only to carry hereditary information from one generation to the next but also to provide the basic controls for growth and development of the individual. Thus radiation has the potential of causing both hereditary defects in our children and children's children and body effects on the individual such as errors in embryonic and fetal development and the alteration of cell growth which produces cancer. The significance of radiation doses, however small, is that their effects are first proportional to the dose and second are accumulated throughout life, particularly in the sex cells.

Exposures may come from a surprisingly large number of sources. In our own homes, harmful high energy radiation comes from color television sets, microwave ovens and other electronic home equipment. Medical services provide additional loads through the use of X-rays and radionuclides, and still other amounts come from the ingestion of radioactive materials produced by military and industrial uses of atomic energy. With the impending drastic increases in industrial uses of atomic energy, particularly for electric power, there is grave concern as to what the effects of the associated increases in radiation burdens will be. There is considerable debate today as to whether the standards being set by the U. S. Atomic Energy Commission are sufficiently rigorous. Though only one percent of U.S. electricity is now provided by nuclear energy, the AEC predicts this may reach 50 percent by the year 2000. This could create a tremendous and conceivably an intolerable challenge to our environment, through the production of vast quantities of radioactive wastes and heat which much be stored, cycled or dissipated.

With a fairly low population density and with a minimum of heavy industry, the uses of atomic energy along with its deleterious effects in Georgia may be kept to a relatively low level. There will have to be economic and ecological tradeoffs, but at present no one can predict how these will develop. The first atomic power reactor in the state is scheduled to begin operation in 1973 on a site near Baxley, Georgia. The preparations for this are very encouraging, for the Georgia Power Company has initiated a five-year preoperational ecological study in cooperation with ecologists at Emory University and the University of Georgia. This is a prime example of the kind of preecological planning which industry is beginning to adopt.

But despite close controls by the medical profession, by appliance manufacturers and by industry, the inevitable increase in radiation burdens of the future present a most serious threat to man, especially when judged in terms of the vast deleterious effects it has already had on man and his biological environment. Being in the Atomic Age, man's challenge is not how to do away with, but how to wisely use this great resource.

Cooperation with the Federal Government. Environmental contamination is not contained within political boundaries, but rather it conforms to the transportation systems of nature, such as air sheds and river basins and of man, such as highways and railroads. Without question the quality of our environment has become in the past few years a primary concern of the President, the Congress and of government agencies. In addition to its regulatory activities, it has provided programs and funds for dealing with all aspects of pollution, ranging from basic research to industry incentives and construction grants. Persons who do not keep up with such activities would be amazed at their magnitude and scope. It is beyond the purpose of this paper to document these activities, for many pages would be required just to list, for example, the more recent legislation enacted or pending, the activities of the Executive Branch, the Congressional Hearings, the Study Panels, the regulatory and research programs of the various federal departments and the new administrative structures which have been developed for the sole purpose of dealing with environmental problems in their broadest context. These brief comments, therefore, are only for the purpose of placing the state in some perspective with the inputs from the federal government.

Conservation of Natural Areas

Orientation. Man has a paramount need for natural areas for recreation, education and research. Natural areas are unique in that they are irreplaceable; they cannot be produced at will by man's ingenuity and technology as the need arises. One hundred years is required for a mature forest to develop from an abandoned field, and even more for the reconstitution of a coastal marsh. Thus, these needs are not just for us; we must provide now for our own children and for generations to come. But we of this generation have the custody, responsibility and opportunity. Leadership actions for conservation of Georgia's environment can be accomplished only by Georgians. Unlike the problems of pollution, which are shared in large measure by the federal government, the disposition of our own lands is primarily in our own hands.

For these reasons Georgians have in the past three years rolled up a remarkable record for the conservation of natural areas and have taken a great lead in such issues within the southeast. Action has come from the Executive and Legislative branches of the state government, from U.S. Congressmen, from various state commissions and from business and industry, but primarily from an informed and aroused citizenry.

The several agencies and organizations which have come into being these three years interlock with continuing agencies and organizations as well as among themselves. Collectively, all of these stand as a unified body dedicated to the same philosophy and goals. If the remarkable momentum gained in these beginning phases can be sustained and increased, Georgians will have over the years ahead an enviable record for the conservation and wise use of much of the state.

A fair question to ask at this point is why just the past three years? The reason is clear. Conservation activities prior to these years, although solid and substantial, were in the mood of the past several decades and were directed primarily at the environment as such. Within the past three years, the philosophy and objectives of conservationists, state officials and private citizens have undergone a revolutionary change. They have placed man into perspective as an integral part of his environment. In so doing they are developing the kind of multi-value system which is at the heart of this position paper.

Space will not permit more than a sketch of the highlights of these three years, along with some indication of their future significance. I offer my apologies to those programs which are not included or are not adequately covered, but are just as important as the examples given. Also, since I cannot provide a roster of the hundreds and thousands of Georgians who are responsible for these actions, I am not using individual references.

Two Conservation Forces. Two examples are given of organizations established for conservation purposes. On the state level, the Legislature established in March 1966; *The Georgia Council for the Preservation of Natural Areas*, later shortened to *The Georgia Natural Areas Council*. Its original makeup of an executive director and eight representatives from various state agencies, colleges and universities was increased in 1969 to include two additional professional positions and five additional Council members. This provided for representation from the Planning Commissions of the state and from the Senate and House of Representatives. The Council was also given the right to hold title to natural areas.

The principle concern of the Council is the ecology of man in Georgia. Often its activities are centered around the conservation of plant and animal habitats for educational, recreational and scientific uses. At other times it serves in a resource and advisory capacity to citizens and to state officials and agencies. As one measure of its scope, the Council in its first year of operation registered 10 tracts as Georgia Natural Areas, proposed 58 more and cataloged a total of 1338 with the generous help of other groups. The Council has sponsored a number of conferences and symposia which have dealt constructively and imaginatively with the major conservation issues which are before the public and it has effectively supported legislation and other action at the State Capitol.

Within the private sector, the first significant development was the creation in January 1967, of *The Georgia Conservancy, Inc.*, a unique statewide band of individuals concerned with all aspects of conservation. Founded by 65 Georgians, it has subsequently grown to more than 1500 members with 50 trustees and a full-time director and office staff. This has been a spontaneous growth without the benefit of promotional activities such as membership drives. A non-profit organization, the Georgia Conservancy is the citizen's voice for conservation. By serving as a coordination center for other conservation groups in the state such as the Georgia Sportsman's Club, the Applachian Trail Club, the Georgia Botanical Society and the Georgia Chapter of the Isaac Walton League, the organization represents many thousands of Georgians. The purpose of the Georgia Conservancy is to take action wherever and whenever it is needed to preserve and insure the wise use of natural areas in the state, and to preserve the quality of our environment. Such actions may involve establishing nature preserves or outdoor laboratories, conducting planning studies or organizing educational programs in such a way as to create public understanding which will result in intelligent and constructive public action.

Its accomplishments to date far exceed what would have been thought reasonable at the time of its organization. Its first major project was undertaken when the Conservancy was less than a half year old. This was to secure, as a living regional laboratory for education and research, a 500 acre, $200,000 tract encompassing a priceless natural resource, Panola Mountain. This goal has now been realized. Georgia, by action of the Governor, is purchasing it as a statewide center for teacher training, for education at the public school, adult and college levels, and for university research. One of the Conservancy's goals, as exemplified by Panola Mountain, is to acquire endangered unique areas and then to find a continuing use for them.

The Georgia Conservancy played a significant role in blocking the leasing of phosphate mining rights off the Georgia coast, a story to be developed in detail later on. In mobilizing the conservation interests of the state, the Conservancy has sponsored fourth Saturday field trips to interesting natural areas and has conducted annual conferences on state conservation problems. In July of 1969, the Georgia Conservancy was awarded a grant by the Callaway Foundation, Inc. of $100,000 for its program. This magnificent gift is of inestimable significance, for it recognizes in its broadest context the need for a man-environment oriented society.

Three Conservation Programs. I have selected as examples three programs, each of which requires that the citizens of Georgia make a clearcut choice between an ecological approach or a profit centered approach to the development of large segments of their environment. They provide, therefore, an opportunity to test the conflicting concepts of human values in the crucible of informed public opinion.

The first concerns the mining of phosphate off the Georgia Coast. In the spring of 1968, the Georgia Conservancy learned that the huge 600 million dollar Kerr-McGee Corporation was submitting a bid to the state for a 20 year mineral rights lease, presumably for phosphate, on 25,000 acres of offshore land adjacent to Skidaway Island, and furthermore, they learned that the state might give its approval in a very short time. The Conservancy alerted conservationists and concerned state agencies and the battle was on. The Kerr-McGee Proposal at face value appeared to be another economic boon to Georgia, for it offered to give the state $750,000 in cash plus royalties and a 150 million dollar per year industry for the Savannah area. Thus its economic impact on Georgia would be of major proportions. Furthermore, Kerr-McGee had enlisted the aid of powerful financial and commercial interests in the state. If the state had followed the conventional course of economic determinism, would it have chalked up another great economic gain for Georgia and its citizens?

The immediate reaction of the State Game and Fish Commission, the Georgia Water Quality Control Board and of ecologically-minded people over the state was that the associated costs in other values might far offset the financial gains. Would the proposed mining operation seriously disrupt or outright destroy much of Georgia's irreplaceable marshlands? What would happen to the fish and shellfish industry? How would it affect tourism? Can the company really provide adequate protection against air and water pollution? What would its effects be on the beaches and navigation channels? Would the aquafers be irreparably broken? What are the long range effects of disrupting thousands of acres of ocean bottom? How will it affect recreation? What will be the long range consequences to nearby residential and commercial property? On being alerted to the situation, the Governor quickly called a halt to the negotiations so that two public hearings could be held. The opposition was overwhelming, Kerr-McGee and their representatives being the only ones to testify in its favor. Further investigation had revealed that the Corporation did not fully disclose its long range plans and that buried in the proposal were options for obtaining associated benefits at great loss to the state.

The Governor in the meantime had taken a significant first step for the state. He asked that a five man, nonpartisan commission be designated from the State University System to make a complete study of all aspects of the proposed operation. The report, a model of objectivity, showed that the losses based on other human values would outweigh the economic gain, and subsequently the bid was rejected. The entire matter was conducted over a period of 10 months as a statewide forum, and was characterized by dignity and reason.

The second issue, *Georgia's Marshlands and Golden Isles,* was brought into sharp public focus by the Kerr-McGee situation. These areas provide a unique and highly significant opportunity for private and public decision making on the wise use of a large and relatively unspoiled portion of Georgia. The principal islands, Wassau, Ossabaw, Black Beard's and Cumberland, are now privately owned by a few families. The people and agencies involved all want to take an ecological approach to the issue, but see it in differing perspectives. These groups include the island and marshland owners, the surrounding municipalities, the Regional Planning Commissions, private investment corporations, the National Park Service and other recreational agencies, university research groups, the State Game and Fish Commission, the Ocean Science Center of the Atlantic, conservation groups including the Georgia Conservancy, the Georgia Natural Areas Council, and the Nature Conservancy, people in the humanities and the general public.

As a means of providing for in-depth studies, presentation of views and protection of interests, a number of organizations have been formed and proposed. Among those in existence are the Marshland and Owners Association and the Marshland Foundation, while those in formative stages are a Bioeconomic Master Plan which would probably be coordinated through the Ocean Science Center of the Atlantic and the Institute of Community and Area Development of the University of Georgia, legislation to create a Coastal Wetlands Control Board under the State Game and Fish Commission, proposals to develop a National Seashore Park by the National Park Department and proposals for multiple use development by investment corporations. This is a prime example of complex, long range regional planning based on multiple social values.

The third issue, which involves chanelization of the Alcovy River, is sharply drawn. Shall the sheer weight of government bureaucracy be allowed to despoil our inland rivers and river swamps? Conservationists are using the Alcovy River as a test case. The river is a tributary of the Ocmulgee and drains into Lake Jackson. The U.S. Soil Conservation Service, under Public Law 556, has plans or will have plans to dredge, channel and drain most of the major streams and river swamps of Georgia. A number already have been drained and plans for the Alcovy only await final approval.

An interesting aspect of this issue is that only a small part of Public Law 556 is under attack. Under the law; the Soil Conservation Service has made many fine contributions to the citizens of Georgia through a sound program of soil and water conservation. Their activities are sponsored by officials of the cities and counties involved. The law provides for the stopping of erosion, the reduction of flood frequency on existing crop lands, the impoundment of water for municipal use and the draining of lowlands to provide for additional agriculture. Disagreement comes only from the latter, i.e., the draining by channelization of the major swamps along the larger rivers.

Because man can't plow or build houses in swamps or lowlands he has systematically drained these, large and small, in the name of economic progress. The irreplaceable ecological values of the inland wetlands are now being understood and strong efforts are developing across the country to preserve them. Coastal marshes provide a good correlation, for until recently they too were often considered waste lands. Recent ecological studies have shown that they not only provide spawning grounds for fish and shellfish, and serve as a stabilizing force for the quality of coastal waters, but also they are one of the most productive of all ecosystems. Now that this is understood, the marshlands are generally regarded as seashore treasures.

The lowland or wetland forests have been shown to be nearest to a multiple use concept for fish and wildlife of any environment. When to this is added their tremendous timber resources, the lowland forests become doubly valuable from monetary and recreational standpoints. A cost analysis of the Alcovy project provided by the S.C.S. shows that the annual benefits from increased agricultural acreage would be $105,000 per year while the initial cost of channelization would be three million dollars. Since much of the adjacent acreage is already in soil banks, the actual benefits may be greatly exaggerated. Being near a great metropolitan area, the magnificent swamps of the Alcovy are also of great value for educational use.

An impressive array of people are solidly against such channelization, not only for the Alcovy but for all the major rivers and swamps in Georgia and in other states. These include all conservation groups, the State Game and Fish Commission, U.S. Congressmen and the U.S. Bureau of the Interior. The Soil Conservation Service has agreed after much pressure to re-examine the issue for the Alcovy River. In order to protect similar areas across the country, the language of the present legislation needs to be changed.

Finally, the issue is "who shall make the irrevocable ecological decisions affecting irreplaceable biological resources?" Shall it continue to be engineers and economists alone as in this case, or shall it be by representation from these and all other aspects of science and society? The outcome of the Alcovy issue is of national significance.

Educational Activities

Public Schools. Ecology is poorly taught in most public school classrooms in Georgia today. True, the quality in a few is superb, and in even more is fair, but in most it is poor or nonexistent. There is a logical explanation for this. First, schools are concerned primarily with covering a field of science rather than emphasizing a particular segment. Second, when the units on conservation or ecology or other aspects of environmental science come up, the teachers are not equipped to treat them imaginatively and in depth. In the grade schools ecology in some form comes up most every year through the general science courses, but in high school it is restricted to a few units in sophomore general biology. Third, textbook coverage varies greatly, and ecology is not normally made a prerequisite for adoption. Fourth, motivation and coverage are generally left to the individual teacher and have not become a programmed part of many schools or school systems.

Much of what is taught is focused on the development of ecological attitudes through units on nature study and good citizen conservation. What is lacking on the one hand is a rigorous development of the science of ecology and on the other a genuine involvement of the individual with his own environment. The latter includes not only the effects of man on environment but, of particular significance, the reciprocal effects of environment on man.

This situation is beginning to change as society changes and trends for the future are beginning to gel. Texts are improving. For example, the Green version of a high school biology text prepared by the National Biological Sciences Curriculum Committee has an ecological orientation throughout, plus good solid ecology in several chapters. Some teachers are receiving special training in summer courses designed for this purpose. The facilities in a few school systems have been greatly increased. Help is also provided by the coverage of environmental issues in newspapers and magazines, as well as by an increased interest on the part of the family and the community. Examples of these developments follow. Throughout the state they go under various names, including outdoor education, conservation education or environmental education, while specialized facilities are known as living laboratories, outdoor laboratories or science centers.

Dekalb County's Fernbank Science Center is the most comprehensive and best known facility in the state. Some of its environmental science programs are being carried by television throughout this country and abroad. The Center consists of a magnificent 70-acre primeval forest, the living laboratory, and a two million dollar facility for all natural sciences, including geology, meteorology and astronomy. Its public school programs and courses are closely integrated with the clasroom from preschool through the twelfth grade. Along with this are in-service teacher training courses and a broad range of activities for citizens of all ages. This past year over 200,000 people utilized the facility, with half of this number in organized educational activities. This included 64,411 elementary and 24,188 high school students.

Other recently established science centers for environmental studies include the Okefenokee Swamp Science Project in Charlton County, Ward Creek Environmental Study Area at Kennesaw Mountain National Park in Cobb County, the Atomic Energy Regional Center established by the Georgia Science and Technology Commission and programs for the fifth grades of five counties at Unicoi State Park through the North Georgia Mountain Authority.

Significant teacher training programs have been established by the Fernbank Science Center and by the Georgia Natural Resources Council on the Shorter College and Valdosta State College campuses.

Another development of long range significance is the increasing number of "school yard outdoor laboratories" developed as an integral part of elementary and high school campuses.

Colleges and Universities. Ecology courses are now included as part of the biology curriculum of almost all four year colleges in the state. However, at most two year colleges there is little or no training except as a small part of the general biology course.

At the university level, training and research programs in ecology and in the environmental sciences are excellent. Significant leadership for the state, nation and world is being provided by a number of research institutes and training programs which are centered on man's problems. Of foremost significance is the Institute of Ecology at the University of Georgia, along with its laboratories at Savannah River and

Sapelo Island. Additional examples which represent a broad range of ecological interests include the Institute of Natural Resources and the Social Science Research Institute of the University of Georgia and the multidisciplinary Training and Research Program in Ecology and the Center for Research and Social Change at Emory University. Georgia Institute of Technology and Georgia State University also have several substantial programs.

Adult Education. Citizens' exposure to ecological problems is increasing, primarily through feature stories, documentaries, editorials, and the like in newspapers, magazines, radio and television. These media are doing a responsible job of bringing the issues to the public and shaping attitudes and action. However, the equally important need for serious study of these problems by adult groups has not yet been faced.

The Ecology of Georgia in 1985 . . An Educational Challenge

What will be the ecology of Georgia in 1970, 1985, the year 2000? No one knows. All that I can do is state the goals as now envisioned and show how they might be achieved by a projection of present trends and attitudes. I would like to approach this from two perspectives. The first ,"Why Teach Ecology?," attempts to present the significance of ecology to man, while the second, "A Program for Environmental Education," attempts to develop a constructive approach to this need by the State of Georgia.

Why Teach Ecology?

Man stands at the crossroad of success or failure as a biological species. Modern man, *Homo Sapiens,* appeared on this planet a scant 20-30,000 years ago, and his predecessors only within the past million. Shall he abruptly fade from the face of the earth? By the atomic bomb man gave himself a unique gift—the capacity for self-destruction in one great holocaust. Now his technological wastes have given him another but more exquisite means of self destruction. As David M. Gates put it, "Mankind has lit the fuse of the environmental bomb. It is not a question of whether or not it will explode, but only a matter of how fast." Are we now returning from a very long era of futile and self destructive efforts at conquering nature to a realization that the quality of life is proportional to the harmony we can achieve with all aspects of our environment? A projection of our present efforts would indicate that this is true.

As a perspective, I would like to develop the analogy of our western civilization as a great pendulum whose speed and direction of motion through time is determined by the forces of technology and economic determinism on the one hand and the opposing forces of human ecology on the other. Both forces are needed to keep our civilization healthy. Our problem then is to find the means of restoring an adequate balance within the context of society as it exists today.

The forces of technology and economic determinism, fired sequentially by the industrial age, the atomic age and the space age, have pushed the pendulum at an ever increasing and recently a dizzying speed. The opposing ecological forces began to slow this motion effectively about a decade ago, and within the past five years may be beginning to bring it into a better balance. We now have the knowledge, concepts and attitudes, not only to reverse this motion, but to then push the pendulum back to an equilibrium position which is favorable for human health and happiness. The unknown factor is the extent of man's will to do this.

I would like to trace the development of these ecological forces. If they are to reverse the swing of the pendulum, they must be more powerful than the desire for profits. Ecological laws and processes are as old as life itself, for they have shaped the evolution of all life including man, the most recent and dominant of the primates. But man, not knowing this, placed himself above and apart from all other life. Not until 100 years ago did he even begin to understand that his evolutionary origin was not a mere few thousand years ago in the Garden of Eden, but millions of years ago as another form of life appearing in the evolutionary parade of microbes, plants and animals.

Man's scientific approach to ecological relationships also had its origins some hundred years ago. The early efforts, called natural history, were concerned with the evolutionary relationships of adaptation and geographic distribution. Less than 50 years ago another level of complexity was reached with the study of communities of organisms, such as occur in a pond or forest. Not until 10 to 15 years ago was man's knowledge sufficiently enhanced to permit a sophisticated study of the entire life environment system, the ecosystem. The kinds of ecosystems range from those dominated by man, such as cities and agricultural fields, to those less affected by him such as mountains and rivers. All of these make up one vast interacting ecosystem, the planet earth. The ecosystem concept has provided not only a powerful tool but also a catalyst for understanding the effects of our avalanching technology on our environment.

Armed with unassailable methods and facts, various segments of society are attempting to halt this avalanche. Through the first half of this decade, the major emphasis was on the effects of man on the environment. Through the mid-part, however, another highly significant development took place. The question was turned around. For the first time in our history the crucial question was asked, what is our environment doing to us? Whereas the former permitted us to continue our age old feeling of detachment, the latter hit us squarely in the face. Now man knew that he was personally involved and his welfare was at stake.

Our reaction to this knowledge has been prompt and decisive. Almost every significant ecological development in this country has occurred within the past five years and in Georgia within the last three, as documented in previous parts of this paper. Each year, each month and each day, new ecological developments and relationships take place. Ecology has become more than a science and a way of thinking; it is being increasingly used as a rallying point and a political force. Could it be that we are just barely entering into our ecological revolution, aimed at a man-environment age of prosperity, health and tranquility? It is too early to tell, for while ecology is growing, it has not yet become a dominant force throughout our whole society.

As emphasized above and throughout this paper, there is only one ecology. For the sake of emphasis and convenience, we speak of human ecology and plant ecology, or urban ecology and forest ecology, or of transportation ecology and pollution ecology. But all aspects of life environment systems are under the same set of basic laws and principles as developed through the three billion year old crucible of evolutionary process. The humanizing element which sets man apart from other life is that he has the capacity to alter and manage these systems. The ultimate measure of man's humanism is in one sense the extent to which he can do this in harmony with these natural laws.

The professional needs of society exemplify the humanistic aspect of ecology. Medicine, environmental health, agriculture, engineering, architecture, landscape design, urban planning, commerce and industry all are now beginning to build ecological bases and perspectives into their training, research and development, practice and product and public relations.

The people of Georgia are beginning to ask themselves some hard questions. What kind of ecology do we want for

Georgia in 1985? Put another way, what kind of life and environment do we want to perpetuate for ourselves, our children and their children's children? Is our present value system adequate? If not, what kinds of changes should be made, and how can they be accomplished? Is there a set of principles on which an adequate value system can be based?

There now exists an overwhelming and irrefutable body of evidence which encourages man to shift over to an ecological or multiple social value system. This simply involves turning things around. For example, instead of making society conform to technology, let technology be molded to society. This places unprecedented demands on technology, for then it must satisfy the multiple needs rather than the more direct and simpler ones with which it is now concerned. There is general agreement among a large segment of the population that in the pressures and frustrations generated by the rapidly expanding population, the rigorous military demands from three wars, the emergence of the atomic age and the space age and the unprecedented consumer pressures on commerce and industry, we have become the victim rather than the master of our technological society.

A prime example is the automobile. It has few equals as a glittering technological and commercial example of man's ingenuity until it leaves the factories and showrooms of the auto industry. When it crosses their threshold into the hands of the public it becomes an inhumane diabolical monster. It kills and maims more people than our best instruments of modern warfare. The toll now stands in excess of 50,000 per year and 1,750,000 injured. As the greatest cause of urban air pollution, the automobile causes Americans each day to inhale poisonous fumes. The auto has been systematically stripped and thinned of protective metal, while its power has been increased far beyond its needs for transportation and its capacity for safety. Interior comforts have been so increased that drivers are lulled into an often deadly sense of false security. Its few modern safety measures have been installed at the insistence of the federal government. Legislative policies merely encourage the built-in obsolescence of vital parts by consistently refusing to enact laws which will keep defective cars and drivers off the highway. As a final result, the wrecked and discarded carcasses of automobiles litter our landscape, since no serious thought has been given for their disposal. We suffer all this for the rewards of convenience and economic profit. Society has urgent need for safe, nonpoisonous and low cost means of travel. Economic and social trade-offs are inevitable for a reorganization of our transportation system. The current swell of the people's revolt against the present means may force such issues sooner than expected.

Still another example is in the growing sensitivity of commerce and industry to consumer demands for product design which better fits theirs and hence society's total needs. Another example relates to economic protection against inadequate regional planning. The plans for a proposed jet airport in the Everglades of Florida have just been halted and will probably be cancelled. This is in spite of prior government approval and a substantial investment by business interests in land acquisition and construction. Why? Because a study by the Department of the Interior has shown that in addition to drastic disturbances of waterflow through the Everglades, the facility and its satellite community would generate four million tons of wastes per day. This would mean the end of the Everglades. The long range costs to society of its present location were judged to be in excess of the commercial gains envisioned. The Jetport can be moved to another location, but the Everglades are an irreplaceable national resource. The mood of society today is such that commerce and industry are utilizing more and more a long range multiple value system of planning.

In summary, ecology introduces a vital and self renewing element into our engineering and social needs. By providing means for placing our present values into a better balance with all others, it becomes a powerful humanizing force. Acceptance of its essence could well be the greatest challenge man has yet faced.

A Program for Environmental Education

Responsibility of the State. A constructive educational program should be a top priority for the State Department of Education. Such a program will be very difficult and costly. Even so, the need is so urgent that the planning phase should be initiated this year. The situation is similar in some ways to the educational crisis which developed immediately following the advent of the space age, even though the present crisis lacks the dramatic punch delivered by the historic flight of the Russian Sputnik. The first penetration of outer space brought to every home, business and profession the inadequacies of the educational system as it then existed to meet the demands of society for the 1960's. In contrast, events leading up to our present crisis have been taking place over several years and there has been no single event or even a series of events which would crystallize this for the rank and file of Georgians. Furthermore, the problems in other parts of the country have exceeded ours to the extent that many people believe these problems belong primarily to someone else. Put another way, perhaps a large majority of the people in Georgia have not yet felt a sense of personal involvement, either for themselves or for their children. The significant gains of the past three years have been accomplished primarily by a few select groups of citizens and public officials.

Educators everywhere are beginning to realize that as our society has moved at a breathtaking speed through the 1960's and into the new era of the next decade, education is still in its early 1960 mold. Widescale student unrest provides elequent testimony to this situation. An ironic aspect is that the present crisis is of far deeper significance to every citizen of Georgia than the technological crisis of the 1960's. The subsequent brilliant advances of science and technology were epitomised by putting a man on the moon. Parenthetically, I might add that this terrific accomplishment was due in a very real way to its primary emphasis on ecological planning. The safety and welfare of the astronauts were put first. The technology, then, was designed to treat man as an integral and primary part of the life environment system of the space craft. Even the most talked about byproducts of space exploration are concerned with their present and potential contributions to man's environment on earth.

These developments dictate that the leadership for environmental education must come from the state. To delay until a grassroots demand developed would be very costly. In my judgment, the primary responsibility for environmental education rests solidly with the state, and the time to act is now.

The Public School Program. Education is needed at all levels, public school, college, graduate, professional and adult. Of these, public school education is the most basic. Well-grounded concepts and attitudes instilled during the formative years influence the individual throughout his life. It is here, of course, that interests and motivations are developed for vocations and avocations and for decision making at the polls and in home and community affairs. At present, ecological training in Georgia public schools, with some notable exceptions, is at a low or only token level. Anything short of a radical reorganization of the entire training program for ecology would be too little.

One of the major problems is in making the transition from a natural history orientation to an ecosystem approach, in which the student is involved not only with life "out there" but with his own personal interactions, and through this society's interactions, with environment. Some pilot programs are now being developed. By the use of maps, models, games, trips, photographs and the like, children in the lower grades, for example, construct model communities based on the ecological principles of long-range regional design. Thus, they gain an understanding of their environment in a visual sense as well as in its social and political implications. All approaches, of which there are many, should be solidly grounded on the rigorous use of scientific methods, principles and data. Such approaches are multidisciplinary, as is ecology. Also, in addition to units which deal with ecological relationships *per se*, many others can utilize ecological concepts.

I strongly urge that at the high school level our sights should be set for the development of a curriculum course in ecology. This course would require a full year of study, with some preparation provided in the lower grades. Thus, the subject could take its place along with physics, chemistry and biology. Ecology could be a senior course required of all students. It should be built on a solid grounding in ecological laws, concepts and techniques and a realistic interaction not only with other sciences and mathematics, but with nonscience fields such as sociology, psychology and economics to insure a broad, genuine involvement with the life of man. The course could just as well be called environmental science or human ecology.

Where a separate course is not feasible, then ecology should be made a required part of the biology course. This single course emphasis does not, of course, pre-empt the need for an ecological orientation in many aspects of the high school program.

Four year curricula for programs in human ecology are today in the formative stages at a number of colleges in lieu of the traditional isolated courses dealing with man and environment. Other colleges are developing departments of environmental science.

There are strong indications, at present, that within a few years ecology will be required for preprofessional training in many fields. For example, at a recent conference on the environment, arranged for the deans of the engineering schools of the southeastern states, there was unanimous agreement that all engineering students should have in-depth ecological training. The problem is how to find a place for such training in an already overcrowded curriculum. One solution is to provide this to a considerable extent in the high school program.

In a still broader sense, other steps which can be readily identified as essential to bringing our environmental problems under control are research, political reorganization and citizens' action. Ecological training in the public schools feeds directly into all of these. The development of a statewide program will require a new position within the curriculum unit of the State Department and appropriate supervisory and consultant positions for counties and municipalities.

Vocational and Adult Education. Vocational needs at the professional level have been stressed. At the technical school level, the demands for technicians and specialists in all aspects of pollution ecology, such as water, air, solid wastes, etc., should increase at a rapid rate over the next few years. Georgia's needs for them have been documented throughout this paper. Needs for adult education should follow in the same vein.

Facilities. Basic ecological training requires the use of both indoor and outdoor laboratories. For the indoor laboratory the subject may be approached at various levels of sophistication. Much of the laboratory equipment on hand for the general science and biology laboratories is directly suitable for ecological studies. I do not envision the need for any appreciable expenditures for ecological equipment over that needed for the science curriculum except for the outdoor laboratory. Each school should have one on its own campus. These can be very simple, consisting only of the fringe areas of the playing grounds; preferably, it should be small tracts of field or woodland set aside for this purpose. There is a growing awareness throughout the state that in the establishment of new campuses, outdoor laboratories must be provided.

In addition to the individual campus facilities, science centers should be established for counties, large school systems and for the state. (Examples of these have been given in a prior section.) An awareness of this need is rapidly growing within the state. By the generous help, for example, of industry, of state and municipal agencies and of regional planning commissions, more and more such areas are being established each year. The first priority, of course, is to obtain the land for educational use. Subsequently, programs at varying degrees of sophistication may be established.

Manpower. There are conflicting views on the availability of manpower, but in my judgment adequate personnel may be obtained. Competence is needed for classroom teachers, for consultants and supervisors and for science center personnel. Some excellent in-service training programs have been established for the classroom teacher, but this capability needs to be greatly increased, particularly through state operated centers such as could be established at Panola Mountain. At present some teachers go out of the state to receive such training. However, several programs now exist within the state at the science centers named in a previous section. At Fernbank Science Center, 361 teachers were enrolled in various courses of 40 contact hours during the past 12 months. College and university training for other positions is increasing substantially. In many graduate departments of biology, half or more of the students are interested in various phases of ecology. The following note from the Director of Fernbank Science Center highlights this situation for Georgia.

> Judging from the contacts and applications that have been received in my office and in the Personnel Department for the DeKalb Board of Education during the past year, it is my opinion that there should be sufficient applicants at this time to adequately staff programs in the environmental sciences in school systems throughout the state if special funding and allocations of teachers were made to these school systems by the State Department of Education for this purpose. At the present time there are 62 applications on file either in my office or the Board of Education of qualified applicants with at least a bachelor's degree with specialization in one of the fields of environmental science. Of these applicants I would estimate that at least 60 percent have a master's degree or better and several of these have Ph.D. degrees in a specialized field of science. In addition to these applications on file I would estimate that I have received at least 30 telephone calls from applicants whom I have discouraged.

Finances. Funds are needed initially for personnel and for curriculum development. A second priority should be for the building and staffing of science centers. The land may often be acquired from non-governmental funds, through local groups, or by a long term lease from industry and government agencies. Because of the present tight educational budget for existing activities throughout the state, the funds for the initiation of a statewide program may have to originate as a line item in the appropriation bill submitted to the legislature. This may be a good move, for it emphasizes the need and tests the mood of the people for its development. Existing science programs and centers have been funded through various combinations of federal, state and private sources. Federal funds are not available at present, but may be anticipated over the next several years. Funds from private sources may substantially increase, as the needs and quality of the program develops.

Dr. Robert B. Platt is professor and chairman of the Department of Biology, Emory University. He also serves the University as director of the Multidisciplinary Training and Research Program in Ecology. Dr. Platt has received the George Mercer Award from the Ecological Society of America, the Sigma Xi Research Award, and a Guggenheim Fellowship. He has served in many capacities with scientific societies, especially the National Science Foundation, the National Institute of Health, and the Atomic Energy Commission. His teaching and research interests in ecology are reflected in over 80 papers and two books. Dr. Platt received his Ph.D. from the University of Pennsylvania.

critique:

The Ecology of Georgia

By John D. Withers,
Dean of Faculties and Instruction,
Clark College

THIS critique will be executed in two parts. The first part will be a general overview of the paper as seen through the eyes of the reader. The second part will be concerned with specific items which caught the fancy of the reader and upon which there will be professional judgment.

The Overview

The title of this paper could as easily have been "Ecology in Georgia" rather than "The Ecology of Georgia" since a major portion of the paper deals with the kinds of political, personal, industrial and educational agencies and programs which impinge upon, or in some way affect, what is happening to the ecology of Georgia or with results of ecological considerations which have been brought to the attention of these agencies or programs. It is then necessary to look at this paper from the standpoint of the ecologist on one hand and from the standpoint of the layman politician, businessman, educator on the other.

Most of what can be construed as ecology, the science, has been included in roughly the first 20 pages of the paper. While some of the definitions given and some of the explanations offered are, to say the least, controversial, it is expected that the audience to whom the paper is directed will get a broad and comprehensive understanding of what one means when one suggests the ecology of Georgia.

We will consider specific areas which present some difficulties to the practicing ecologist and, therefore, we will not suggest any specifics in this portion of the paper. Basically, the topics chosen represent what might be considered the biases of the author, and I have no quarrel with his approach.

Knowing the author's interest in and considerable expertise in the field of ecology, as evidenced by his publications, I consider the omission of a definitive statement with regard to the very remarkable granite out-crops to be found in the state of Georgia to be serious. Likewise, the extensive coverage given to political considerations, considerations impinging upon the educational system, the definition of organizations and the considerable verbiage given to a specific program might well have occupied less space in the paper, giving over to more detailed and varied information on the ecology of Georgia.

Even those paragraphs or sections which have headings that indicate that subjects such as environmental contamination, water pollution, pesticides and so forth will be treated have few lines devoted to the relationship of these items to the topic, but much more space devoted to the description of governmental agencies and the funding of several projects that have been initiated in Georgia. Some interesting facts are brought out, but I had expected to see much more in the way of information regarding the ecological description of our state. For example, under "Pesticides" it would have been well to have indicated more of our efforts to eradicate the fire ant, since this is a consideration probably known to more people in the state than any other. One such example might have been used to demonstrate the failure of governmental agencies and the ordinary citizen to consider ecological conseqences when dealing with so-called pests and the sum delineation of ancillary effects of the attempt to rid an area of pests, as was done in Georgia. How this kind of senseless eradication, done through ignorance, can cause problems in the future might have been discussed.

What is said about the fire ant could be extended when the other areas are treated. I am not convinced that the persons reading this would understand the ecological importance of such things as detergents or food additives or the reason why consideration was given to tobacco smoke as an air pollutant unless one is concerned with the internal ecology of the smoker.

I have some problem with the subjective nature of many of the inferences such as neon signs or the insistence on the use of the ubiquitous beer can instead of the soft drink can. I suspect that there are more areas polluted by soft drink cans since there are more soft drink drinkers than beer drinkers.

The overview suggests that the author opened his paper with an attempt to give some sound, solid, ecological principles, but in developing the paper lapsed into a discussion of the agencies and programs which encroach upon the ecology of Georgia or which have, or might have, or should have, some ecological overtones or ecological input.

Specifics

1. The suggestion in the introduction that the paper will deal with man's origin on the planet and a way of thinking is not in my judgment realized.

2. On page 436, the opening sentence is in error, since I am certain that Dr. Platt intended to suggest that the life on this planet consists of some half million plant species and one and one-half million animal species. This oversight does not compare favorably with page 58 of his biology text entitled *Bio-Science*.

3. Continuing on page 436, the concept of *through the past* rather than *in the past* might be doubted and the concept of the natural state of balance is at least somewhat controversial.

4. I would change the sentence beginning on the sixth line to "such balance is achieved by the rigorous process of organic evolution."

5. In the fourth paragraph on page 436, the first sentence should read, "The unique contribution of ecology to science is the ecosystem concept." Perhaps here would be the place for the definition of ecology found on page 437.

6. It may be difficult to comprehend the suggestion that ecology as a concept is capable of self perpetuation.

7. Paragraph 5 of page 436 has a juxtaposition of words in the sixth sentence which should read, "which make it possible to examine an ecosystem, experimentally and quantitatively as a. . . ."

8. On page 437 the definition of productivity would appear to be too limited. I think it would not be well for the persons who are reading this to get even the slightest impression that productivity is the amount of food produced, or that this is the only measure of productivity. Productivity has other ramifications which are not limited to food alone though the amount of food may be one aspect of productivity examined by the ecologist.

9. I think that we would find some disagreement or at least some question with regard to the role of ecology in providing the basis for the building of a happy and healthy life. I rather think that knowledge of ecology can provide scientific basis upon which man can build a happy and healthy life.

10. Page 437 — The definition of ecology seems out of place this far along in the paper. It should perhaps be transposed to the earlier pages of the paper.

11. Perhaps in the second paragraph on page 437 the statement could be made stronger by simply indicating that through the past centuries, only man among the living things of this earth has sought to separate himself from his natural environment. The remainder of the paragraph would be strengthened by such a notation.

12. The second paragraph on page 438 may be misleading. It can be understood, but it seems that there should be some clarifying statement to suggest that life expectancy is now based upon another class of diseases, since many former killer-diseases have been eradicated.

13. The economic and landscape section is very well done except for the broad statement in the last paragraph. The first sentence apparently should read, "Now there is not a drop of 'ground water' or 'natural water' rather than just 'water' . . ." He can be fairly certain that there is water on this planet that is free of pollution, except in the sense that any impurity is a pollutant.

14. Page 439, paragraph 2—There is some question as to the paucity of open areas in Georgia. One has only to drive through the state to see that it is primarily open and sparsely populated. Most of Georgia's poor live in these areas—in the mountains and in the coastal plains. The contrast between slums and suburbia is not a statewide phenomenon. Many rural areas are little more than open-air slums. It is here a matter of terminology with some subjective value judgment. Basically the section gets at the kind of treatment this paper should cover.

15. Page 440, paragraph 2—Though I understand what is being said, I think that the paper would not suffer greatly if this paragraph were deleted, for we have so far to go before our state becomes as urbanized as would be suggested by this paragraph. This may be a good description of Atlanta, but it is not a statewide malady at this point. We are not over urbanized—there is plenty of space remaining. In fact it sort of appears that the plus side is negated by that statement and I do not think that the negative side and debit side are as great yet. I would include the paragraph if I were going to say this is what can happen. That urbanization is a statewide problem is doubtful at this point.

16. On page 440—The appeal to the civic-mindedness of our state has not terribly weakened the paper. The first sentence under *Environmental Contamination* serves as a shocker, yet I think that the author should be fair to the state in suggesting that again, as was on the plus side, the pluses still maintain themselves. Therefore, to use that sort of statement seems to be begging the point somewhat.

17. Page 442—"Pesticides" is for the

most part adequate. I would suggest that in addition to the reasons given in this section for sane use of pesticides that the author should have emphasized the very important fact that very little is known about the effects of many of these chemicals. Only a modicum of research has been done on the long range effects of pesticides and practically none on the long range effects of herbicides. One of the reasons for this lack of research in this very important area has been that persons in high places, such as the toxicology section of CDC, have made statements which denied any evidence of pesticides causing any disease except 'poisioning.' An excess of evidence to the contrary is to be found in the literature. Notable are the little book *Pesticide Jungle* by Laura Tallian and also the sessions on "Environmental Quality" at the 1968 meeting of the AAAS.

18. Page 443—In the section on *Air Pollution and Food Additives,* the case could have been strengthened had there been some reference to additives which get into the ecosystem via such things as detergents and water soluble paints. As indicated before, I have some doubts about tobacco smoke as an air pollutant, except that it is considered harmful to internal ecology of the smoker. Certainly the effects of tobacco smoking can be a major cause of air pollution in a room but I dare say that it is not as high on the list of air pollutants as carbon monoxide or industrial smoke.

Communications Systems and Mass Media in Georgia

By William H. Hale, Jr., Ed.D.

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THE difficulty in writing a position paper on this subject is because of daily innovations in the field of communications. Thousands of industrialists, scientists, technologists, researchers, and educators are engaged in activities at hundreds of different types of development centers. We are engulfed in a mood which makes us restless with things and gadgets as we know them *today*. These thousands of specialists are designing for tomorrow. Innovations, inventions, modifications, and combinations have become the expected thing rather than the occasional happening.

The ingenuity of American industry in ascertaining the needs of society is overwhelming. The inventiveness of American industry in producing goods and services and then creating a need for them through marketing is unparalleled in man's history. The diversity of American industry provides a competitive basis for improvement and expansion of goods and services. American industry stays on the upbeat—in the thick of change, on the periphery—in order to provide this society with communications systems designed to challenge the imagination of the users and at the same time to provide a basis for further developments.

Mass communications systems are the natural outgrowth of man's desire to speak and be heard and to know. Mass communications has a long but spotted history. From the earliest attempts of man to find a way to persuade other men to act by shouting louder and hitting harder, a man's voice was the chief source of communications. Man learned to talk long before he learned to use other symbols. With the advent of language man created a way of preserving what he had said, and as he looked at these symbols of language he became proud and invented more ways of putting his verbal expressions into symbolism. Early art forms are thought to have been more communication than leisure time activity for primitive man. Somewhere along the line man invented an alphabet to help him organize this symbolism, and in a way this was primitive mass communication. However, real mass communication began when Gutenberg began tinkering around with an old wine press, some wooden blocks, dye, and parchment. He invented the printing press and the world of information changed.

Movable type begat cheap production of paper. Cheap paper begat men with ideas. Men with ideas begat newspapers. Newspapers begat mass distribution. Mass distribution begat more information. More information begat a system of collecting information. The system begat different viewpoints. Different viewpoints begat editorial positions. Editorial positions begat journalistic power. Journalistic power begat a desire to communicate with the masses and the masses begat masses. The masses begat an education, and education begat individuals who did not like journalistic power. So, they begat new newspapers. Newspapers begat magazines. Magazines begat printed pictures. Printed pictures begat moving pictures. Moving pictures begat moving pictures with sound. Sound moving pictures begat television, and television is pregnant with the potential to produce many varieties of media aimed at the masses.

This brief tongue-in-cheek history of mass communications should point out that we have not reached the epitome in mass communication. In fact, some day television might be referred to as the equivalent of the first printing press.

There are two basic definitions which are essential for the reader of this paper. First, the word *communication* must be defined—and this is simple when we refer to a dictionary or encyclopedia. There we find such phrases as *exchange of ideas, conveyance of information, correspondence,* and *to impact ideas.* Any of these are valid and useful; however, for the purposes of this paper a definition which is more of a concept is needed. *Communication is the delivery of information from one source to another with the express intent of changing the behavior of the ultimate receiver.* More often than not, the reader will see the word communication coupled with another word—*systems.* Communication systems refer to the delivery systems for information carriage. This may be something as crude and traditional as a daily newspaper or as sophisticated and novel as a communication satellite hovering in permanent orbit over the Atlantic Ocean. Even though there is much talk and research about two-way systems of communication, this paper will deal primarily with one-way delivery of information by using electronic media.

The second word which needs a definition is *media.* Again, the dictionary or encyclopedia gives simple phrases such as means of disseminating information, all means of communication, and an intermediate instrument for messages of information. However, for the purposes of this paper, a more specific concept is used. *Media will refer to the traditional devices of communication such as newspapers, magazines, radio, television, books, motion pictures, phonographs, and any combination of these which are capable of being designed to carry information.* More often than not, the word media will be coupled with the word mass. *Mass media* will be used to indicate the use of media for the express purpose of communicating to large numbers of people whose identity is unknown but not unimportant. For this paper, the output will be more emphasized than the reception; however, much emphasis will be placed on the need for greater accuracy in reaching larger audiences and ascertaining their demand/needs.

Georgia and Mass Communication—Today

In Georgia there are locally published newspapers, locally published magazines and trade journals, locally owned and operated radio stations and television stations, motion picture companies, and book publishers.

Atlanta—A Major Factor

The great concentration of people in the Atlanta urban area creates a demand for mass communicated information. The presence of such a city as Atlanta in this state makes communication systems in Georgia different from those in the surrounding states. Atlanta is a regional hub—a center of production and a catalyst for the whole state. Atlanta has the greatest concentration of communication specialists in the South and Georgia is the beneficiary of this talent pool. Many federal agencies have regional offices in Georgia. Big industrial companies have sought Atlanta as a base for regional operation. The Atlanta Airport has made Atlanta an international city with foreign embassies and consuls increasing each year. All of this adds to the complexity of Georgia's growth in the communication field.

Georgia Is Not an Island

There is a degree of folly involved in a discussion of communications systems in Georgia because these systems know no boundaries. The Savannah and Chattahoochee Rivers are not considered boundaries by the mass media. Georgia exports and imports great amounts of information through mass media. The relative ease with which information is received or sent in this nation permits no spot or state to be an island. Isolation from information by mass media is virtually impossible except by the cleverest of recluses. Therefore, in considering Georgia's mass media and communications systems, we must in many cases understand that Georgia is a part of a larger system and, in fact, a subsystem in nearly every means of communication used in this country.

Newspapers in Georgia

Ever since the *Georgia Gazette* was first published in Savannah in 1763, the citizens of Georgia have been well supplied with newspapers with which to keep up with the state and the world. For more than two hundred years newspapers have been published in growing varieties. Many newspaper publishers have gone out of business because they just could not make it financially. Many have folded because they could not compete with the big city newspapers being delivered in the small town. Some papers died when the publisher or some gallant editor passed on. The University of Georgia's School of Journalism under the capable leadership of many outstanding men has helped to supply this state with a highly skilled array of newspaper men and women in small and large cities.

It is estimated that 80 percent of the adults in Georgia read a daily newspaper. In 1966, Georgia had 32 daily newspapers and 13 of these had Sunday editions. These newspapers had a circulation of approximately one million daily (morning and evening editions), and nearly 900,000 Sunday. Other than these daily newspapers there are about 200 newspapers published in the state. Weekly papers account for the vast majority of these. There are some semi-weekly papers still published, but monthly and bi-monthly papers no longer exist. Nearly every county seat in Georgia has some type of locally published newspaper.

The Atlanta Journal, The Atlanta Constitution and *The Savannah Morning News* lead in circulation in the state. There are other strong dailies, but their circulation is limited in distribution on a statewide basis. However, the Atlanta newspapers are without doubt the strongest journalistic voice in the state and have the widest circulation of any papers. *The Atlanta Times*, a daily, had a short, unsuccessful life a few years back. It folded for lack of advertising and circulation.

The major newspapers in Georgia are subscribers to the national wire services, which makes them similar in many ways. Yet they are distinctively different in most ways. One mark of distinction is their editorial policies. Some papers have very forceful editorial policies, and today it is the rule rather than the exception for newspapers to try to force their opinions on the readers. These opinions and positions are not as effective today in Georgia as in the past. This is true because the public, especially the young, more highly educated reader, is more enlightened, more independent, and more suspicious of the political and economic forces behind editorial positions. Georgians as a general rule do not use the newspaper in the same way their fathers and grandfathers did. Since becoming more and more urbanized, they do not have the long spans of reading time they once had. Television and other things take up significant lumps of time each day which was once used for leisurely dieting on newsprint.

Since 1963, more people have received most of their information about what is going on in the world from television rather than from newspapers. Before that year newspapers were the major source. This fact and other interesting items are reported in *A Ten-year View of Public Attitudes Toward Television and Other Mass Media* published by the Television Information Office of New York in March of 1969.

Georgia's newspapers, as a rule, are as good as any in the nation. Efforts are obviously being made by publishers to make the papers more attractive and readable. Attempts are being made to prove that the newspaper can render a great many reader services. Changes in format, printing style, and layout are clearly evident. Some are creating telephone call-in services to their readers. The readers call the newspaper to state a problem and the staff of the paper helps solve the problem. The problems and their solutions are printed for the benefit of all readers. Examples of this type of innovation are *Action One* in the *Athens Banner Herald* and *Action Line* in the *Atlanta Constitution*. This type of "editorializing" is a newer, more effective form than the old method in which an editor or editorial staff combed the city or state for some issue on which to take a position.

Georgians receive many newspapers from other areas of the country. Most post offices in the state handle many newspapers each week from the major cities around the nation. Air travel has made it possible to read *The New York Times* or *The San Francisco Chronicle* on the same day they are published. This influx of newspapers grows each year as the population of Georgia increases with migrants from all over the nation. Foreign newspapers are available on newsstands in Georgia's major cities.

Georgia households are basically filled with newspapers. State, local, and world news is blended into attractive packages and printed each day. *Georgia is rich with good newspapers.* They will change greatly in the next 15 years—much more than they have in the past 15 years. These changes will be discussed in a later section.

Magazines and Trade Journals

There are more magazines, trade journals, house organs, government publications printed in Georgia on a given day than the average adult could read in a year reading eight hours a day. There are also book publishing houses in several Georgia cities.

Magazines are not as widely distributed as newspapers, but it is reasonable to assume that most Georgians have access to magazines in their homes. The newsstands in Georgia's major cities once sold only a dozen different magazines and these were the standard types of national weekly or monthly publications such as *Time, Saturday Evening Post*, etc. Today, there are hundreds on the stand. Choice is a problem. There is a magazine to meet the special needs of nearly every man. This is a far cry from the days when the family looked forward to Friday and a five-cents copy of *Grit* or visiting some relation and looking through back issues of *National Geographic*.

Magazine publishers are not as prone to editorializing as are newspaper men. However, the mere fact that magazines are more preservable and durable than newspapers makes them more powerful as persuasive tools in the hands of the editors and writers.

Newspapers and magazines inundate Georgians with available information. This network of printing establishes a first floor type of foundation for all other mass communications systems in the state. It is this print-media base which sets a tone for communications systems at the middle level, which is the wire-media, and these two establish a base for the air-media. Therefore, in Georgia there is a three-level construct in mass communication. This construct is made up of *print-media, wire-media,* and *air-media*.

Radio

It has been less than 75 years since a young Italian named Marconi came to this country to demonstrate the wireless communication system. Dots and dashes were sent through the air relaying messages from one spot to another, exciting many people in the same way that heart transplants affect people today. In the same way that Americans today do not understand the long-range significance of organ transplants, they did not understand the real significance of early radio. A young scientist named DeForest put the voice of Enrico Caruso on the air in 1910, yet it was 10 years before the first broadcast station came on the air. That was in 1920.

Radio was the first truly mass media. Many people remember the days of the 1930s, when Americans in great masses sat absorbed in the problems of *One Man's Family*, patted their feet to *Kay Kyser's Kollege of Musical Knowledge*, and split their sides laughing at *Benny, Allen, Hope* and *Amos 'n Andy*. Attitudes, opinions and behavior of citizens were molded by Drew Pearson, H. V. Kaltenborn, and Orson Welles' scary Sunday night.

The first radio station in the South was established in Georgia. In 1922 WSB began transmitting and became known as "the Voice of the South." It was the first station in the nation to broadcast regularly at night. This station was owned by *The Atlanta Journal*, thereby combining two very powerful mass communication media under one journalistic voice. This voice has through the years been a very forceful factor in changing the values and beliefs of Georgians.

Today in Georgia there are approximately 200 radio stations and more under construction. These range in power from those just strong enough to get out of the city limits to those powerful enough to receive listener mail from across the nation. Georgia is saturated with radio signals. There are FM, AM, and FM Stereo stations. Some stay on the air just during the daylight hours; some stay on all day and all night. Radio programming in Georgia consists primarily of local programs overrun with disc jockey programs having specialized appeal to all types of groups and individuals. There are some stations which specialize in talk shows. Others program primarily classical music. In all cases they do provide some public service programs. Nearly all stations have news and local information as a regular part of the proposed diet.

Many of Georgia's towns and cities have multiple stations. They compete for the advertising dollar for support, selling time competitively to airwaves users. Some are affiliated with national networks which supply funds. Georgians are extremely fortunate to have such a large number of local radio stations, as this affords great potential for mass information distribution.

It is significant that even though radio is no longer considered by people as the major source of information and news, the number of radio stations in Georgia increased about 70 percent from 1955 to 1965. At a time when television grew at unbelievable rates, radio stations were not failing but growing. This shows remarkable ability to adjust on the part of radio programmers and station owners. More radio sets are sold now than ever before in Georgia. It is a rare home that does not have at least two radio receivers.

Radio sets ranging in price from several hundred dollars to less than four dollars are sold in Georgia stores. Boy Scouts and elementary school scientists make their own sets as projects. Radio sets are in cars, buses, doctors' offices, workshops, school lockers, living rooms, kitchens, dens, bedrooms, back porches, patios, bathrooms, upstairs, downstairs, in the walls and just about everywhere teenagers amass themselves. Portables are heard at ball bames, picnics, swimming pools, on the streets, and many other places where people want to stay in contact with their music and news.

Georgians know that every hour on the hour they can tune to a radio station in their area and receive a quick, up-to-the-minute account of world happenings. This is just a part of everyday living. They also know that on the half-hour they can receive local weather and news. The avid radio listener is so well informed about news that when he does pick up the newspapers he searches for the features rather than the news of the day. Radio is a basic tool in the communications systems of Georgia and shows evidence of growing.

There are two types of radio stations as far as the Congress and the FCC are concerned—commercial and non-commercial, better known as commercial and educational. Educational radio has had a very interesting history in this country. Educational radio is not a by-product of commercial radio. From the beginning of the history of broadcasting, legislators and educators have recognized the great potential of educational broadcasting. In 1919 the first educational radio station went on the air at the University of Wisconsin. In less than six years there were 171 educational stations operating. This was approximately one-third of all operating stations. From 1925 until 1937 the number of stations decreased markedly. This rapid decline is explained in retrospect in several ways. Some say that commercial stations began to provide more of these services; others say educational radio just did not accomplish anything; still others claim that the Depression closed most of these facilities.

In 1938, FM broadcasting was authorized. Educational radio received FM assignments and at that point educational radio began to grow again. This second spurt of growth moved even more rapidly than the first one. Today there are well over 300 educational radio stations operating and they are growing monthly.

Even though Georgia has been a leader in educational television (this is discussed in the next section), educational radio has never matured. The only educational radio station operating in Georgia is licensed to the Board of Education of the City of Atlanta. It is WABE (FM). By contrast, both Tennessee and South Carolina have four stations and they are considering a statewide radio network. Louisiana has one station, and Kentucky has five stations. There are no educational radio stations in Alabama, North Carolina, Mississippi, and Florida. Educational radio, as a general rule, has not been adopted by the southern states. (California has 29 educational radio stations; Massachusetts has 14; Texas has 12.) With the advent of the Corporation for Public Broadcasting educational radio is getting its much needed funding. As of the summer of 1969, there was one other educational radio license request pending before the FCC. This request was made by Augusta College.

In summary, the radio media picture in Georgia is one completely dominated by commercial radio, with educational radio being practically nonexistent. There is much discussion currently under way concerning educational radio and statewide educational radio network.

Television

It is an understatement to say that television has greatly expanded our means of communication. It has, in fact, revolutionized communications and has set the stage for an almost incomprehensible future in communications. Radio gave man the electronic ears to tune in happenings in far away places around the world. Television has added electronic eyes so that man can see and hear events that take place not only on earth, but as far away as the moon and the planets.

Television can really be considered *the mass medium*. It is an intricate combination of all the other media. It is a powerful tool in the economy of the United States. Millions and millions of dollars are spent advertising, manufacturing, and programming television. It is a powerful tool in entertainment. It is a powerful tool in education. The things that are learned from television are immeasurable.

Throughout the United States there are five commercial television stations for each educational station. There are approximately 200 education television stations operating in the United States. These stations provide two distinct types of television—instructional and public. Instructional television is designed and telecast for schools and colleges primarily during the daytime hours. Public television is designed and telecast for the general public primarily in the evening and night hours and on weekends. The major distinction between public television and commercial television is in the type of programming and the objective. Public television considers itself an agent of change in society. Commercial television considers itself an agent of stability. These are general designations and are not exclusive objectives.

Television has grown phenomenally in the United States since it began in the 1920s with some basic inventions. In 1930 the National Broadcasting Company began operating an experimental broadcasting station in New York City. However, television did not catch on until after the Second World War. In fact, in 1940 the number of television sets in American homes could be counted on the fingers of one hand. By 1947, 14,000 families had television. In 1948 there were 172,000 families owning sets, and as late as 1949, there were still fewer than a million families with television sets. In the next 10 years television was king, and by 1960 nine out of ten families owned television sets. Recent findings by the American Research Bureau indicate that 95 percent of the households in America have TV. This is a total of 57 million homes with TV. There is every indication that 100 percent saturation will occur within the next few years; that is, it will be 100 percent except for those few who still see it as a one-eyed monster, designed to undermine our basic principles, flickering in the homes of Americans. There will always be these few holdouts. Even so, conversation about television in the coffee shop and the office keeps even holdouts heavily involved in this newest and most dynamic of all media.

Television in Georgia

Television first came to Georgia in 1948 with the establishment of WSB-TV in Atlanta. This was also the first station to operate in the South. The next 20 years (1948-1968) saw very dramatic things happen with television in Georgia. Many more stations have come into being and have, in general, been quite successful. For various reasons, there have been a few stations to go off the air. In 1955, there were 13 commercial stations operating in Georgia. In 1965, this number had decreased to 10. Today there are 15 commercial stations operating in Georgia, several cities having more than one. There are also 10 non-commercial stations operating in Georgia. This total of 25 television stations makes Georgia one of the most saturated of southern states.

The three large national networks serve the state very well. Each one has at least two affiliated stations in Georgia. CBS, NBC, and ABC supply vast amounts of programming through the commercial stations. In fact, most of the programming on commercial stations is not locally produced. The non-commercial stations in Georgia are affiliated with National Educational Television and receive a few programs each week from that source. Most of the programming on non-commercial television is either locally produced or produced by other non-commercial stations in the nation.

Driving through rural Georgia even on the few unpaved roads still existing, it is not uncommon to see a 40- or 50-foot television antenna mounted on a shack which seems hardly strong enough to support it. It is also just as common to hear of new homes being built with television wired in every room and with built-in sets in the walls. Georgians are converting to color television at a rate equal to the rest of the nation. Approximately 30 percent of Georgia's homes now have color sets. Also, the multiple set homes are just as plentiful in this state as in most others. The latest figures show that Georgia has 1,290,000 households, and 1,208,000 of these have television. This is 94 percent television saturation in Georgia homes. These sets are used an increasing number of hours per year. Family members of all ages participate in televiewing—from the infant who just watches the lights move to grandpapa who is learning more and more about life in the world each day.

More than 10 years ago the Georgia Department of Education began one of the noblest and most courageous moves toward educational television of any state in the union. Today the Georgia Department of Education owns and operates eight television stations. They have also asked the Federal Communications Commission for construction permits for two other stations. The Atlanta City School Board also has a television station. Combining the Georgia Department of Education's stations with the one operated by the Georgia Center for Continuing Education at the University of Georgia in Athens, the state is almost 100 percent covered by educational television signals. In fact, there are just a few classrooms in the state which cannot receive the instructional television programs from the Department of Education.

Higher education and public education in Georgia have been working in agreement in educational television for nearly a decade. This agreement is the envy of many states because of its very simple format and highly functional system. In essence the agreement is that the University's station, Channel 8, which covers practically all of northern Georgia, will program the after school hours each day and on weekends. In turn, the Department of Education will program all its stations, plus the University's station, during the school day each day except weekends. This agreement places the responsibility for *instructional television* on the Georgia Department of Education and the responsibility for *public television* on the University of Georgia. This clear distinction and division of objectives provides for singular dedication and devotion to one area of programming by each party. Instructional television is aimed primarily at classrooms. Pubic television is aimed primarily at households.

Television in Georgia is growing. More stations are planned. More smaller cities are searching for ways to develop local television stations. Prices for equipment to go into television and no longer prohibitive for smaller cities, but the local advertising is not adequate to sustain the operations.

Television coverage of Georgia is adequate with 25 stations beaming signals from towers throughout the state. However, there are many homes in Georgia which receive only one channel of television while others in Atlanta can receive seven on nearly any set. The most revolutionary change to take place in television in the past few years was not color nor all-channel receivers, (VHF and UHF), but the advent of CATV (Community Antenna Television). Many households no longer have a communications mast on top of the roof. They have taken it down because now, for a small monthly charge, their set or sets are wired to a large antenna in the community. This wire coming into the home brings distortion-free signals from 6 to 12 stations.

In Georgia there are probably 75 CATV franchises, with approximately 50 operating. These operating CATVs serve tens of thousands of households and subscribers are growing by the thousands each year. What it means is that more and more Georgians have more and better television in their homes. These cable television systems do more than just re-transmit signals. Many of them have a channel available for community news and announcements. Some provide 24-hour weather and music on a channel. There are no restrictions on origination of programs, and this is the next big step for cable television. Much controversy exists between television stations and cable television systems. It is reasonable to assume that Congress will in the next few years make decisions in favor of cable television extensions. This will happen because the viewer is going to demand the best possible television reception with the greatest possible selection of programs.

With 25 television stations affiliated with four major networks and dozens of cable television systems functioning in Georgia, it can be said without doubt that for the 95 percent of Georgia households with television sets, television is the most effective mass media in the state. Any single bit of information can be distributed more quickly to more people by television than by any medium.

Summary of Mass Media in Georgia

Georgia has an abundance of communication systems for mass media. There are three dynamic levels of systems functioning, and even though they are distinct they are blended together to provide the people of the state with as many different communication approaches as are found anywhere. At the base level are print media—newspapers, magazines, books, and periodicals. At the next level are the wire media—telephone and telegraph. The other level is the air media—radio and television.

Communication Systems, Mass Media, and Education—Today

A man can comprehend about five times faster than he can talk. The average man listening to another man lecture is capable of absorbing much more. Someone has said recently that the average American reads about 250 words per minute, but this is not a 250 words per minute world.

Our country has built an amazing delivery system for knowledge and information. Georgia is plenteously supplied with this delivery system. Refinements, modifications, and new discoveries in this system await man's probing.

Formal education has grown to the point that it is now involving approximately one-third of American citizens as students and teachers each year. (Remember Paul Woodring's book entitled, *Fourth of a Nation.*) Many changes have taken place and more are to come. Schools have, contrary to the critics, experienced great improvements in the past decades. More adjustments have been made in schools and colleges than in any other large facet of American life. This has been the case simply because schools are the meeting places of the masses. Enrollments have increased so much in many schools and colleges that there are as many faculty members now as there were students several decades ago. Sheer numbers have created changes, but the biggest changes are not numbers—it is in *what is expected of education.*

Education is the chief occupation of youth in this society and is fast becoming the avocation of adults. This society has an unrelenting faith in education. It has become the yardstick by which people are measured. It has become the key which unlocks opportunities. It has become the mark of distinction for many people.

Even though mass media such as newspapers, radio, and television have been accepted generally by American society, they have been all but rejected by educators. It is the rarest classroom in this country which uses the daily newspaper in a meaningful way. Radio in the classroom is used only as a special occasion device. Television, even though it has been placed in the classroom, is not being dynamically used. Georgia has one of the best instructional television systems for its schools. Approximately 100 percent of the school buildings in this state can receive instructional television. Programs are beamed over a microwave interconnected network five days a week, 34 weeks a year from 8:30 in the morning until 4:00 in the afternoon. These programs range from science for second graders to literature courses for high school students. The Georgia Department of Education, which owns and operates this network, has produced several instructional series which are among the best produced in this country. A strong utilization staff combs the state assisting teachers and administrators in utilization of television in the classroom. The major problems confronting ETV in Georgia are

- the difficulty of scheduling the programs at times when students and teachers are ready for the telecast, and
- teacher reluctance to use television because it is new and its validity is uncertain.

The use of mass media in the schools of Georgia is present but cannot be considered a strong force in educational methodology. But mass media's impact on education cannot be measured solely in this manner.

The greatest adjustment that the schools have had to make in relationship to mass media and communication systems results from mass media's being an accepted part of the student's non-classroom life. Young people today experience a bombardment of information. There is hardly a moment during the day when they are not having information and knowledge blared at them from many sources. Much of the entertainment of young people today is more educational than ever before in our history. Newspapers, radio, and television probe social issues in an entertaining manner. It is difficult for a student to spend an hour before a color television set touring the Taj Mahal and be interested the next day in a black and white picture of the Taj Mahal in his geography book. It is becoming increasingly difficult for students to select courses which will benefit them. Because of mass media the student is presented a vast array of alternatives, thereby making the few alternatives presented by the school a bit bland. Students today still possess as much curiosity as they ever did, but as a general rule their out-of-school contact with mass media makes traditional processes of learning seem drab and unattractive. Students are today intellectually superior because they are receiving information at a rate much faster than past generations. Therefore, students are developing prowess in areas of knowledge avocationally. It is not unusual to find a fourth grader who can discuss the complexities of computers or to have in a seventh grade class six students who know more about science than their teacher. The mass media provide more students with vicarious travel experiences which take them all the way from Plymouth Rock to the Sea of Tranquility. Most of this is done on television in non-classroom hours. At the same time it is not unusual to have three students in the sixth grade who traveled to Europe in the last year or so. Students today come from smaller families and learn to cope with inner personal struggles far earlier than past generations. They learn from the mass media things advanced far beyond the family life lectures in high school. In addition to these influences of mass media, the student is far more comfort oriented and is encouraged to express his independence more forcefully.

The basic problem today with mass media and education is that the schools have been so busy adjusting to increases in enrollment and meeting the basic comfort needs of students that they have had little time to devote to considering the effects of mass media on students. Some attempts have been made. They have been successful and will serve as models for future development. The years ahead can be bright, but it will take a great deal of direction on the part of educators.

Problems and Conflicts in the Immediate Future

Before we discuss the year 1985, it is appropriate to take a look at some of the problems of the immediate future concerning mass media, communications systems, and education. Some of the problems to be discussed in the following pages are already in existence, but will in all probability increase in importance until such time as solutions are found or new and bigger problems supplant them.

Overproduction of American Industry

American industry has sensed that education in this society furnishes a major economic market. Schools will continue to be sold gadgets and devices which were not designed originally for education. In fact, American industry will continue to market its overproduction to the educational field. Some of these gadgets and systems are usable, but in most cases it takes hard selling and a tremendous stretching of the imagination to apply them to instruction. One of the prime examples of this is in the field of computers. These were not built for education and probably never will be widely used in education, at least not in the next 50 years. Computer Assisted Instruction is probably one of the most far-fetched of all "educational innovations." This is not to say that computers cannot be of service in education. But the basic concepts of Computer Assisted Instruction are erroneous and lacking in honest perspective about human learning. The educational community will have to face and solve in the near future the matter of classrooms being filled with the overproduction of American industry.

One of the major problems to be faced in the near future is generated by specialization in learning fields. Someone has said that knowledge today is multiplied each year. If this is the case, new systems will have to be developed to organize this knowledge into new curriculum structures. It is possible that new designations will be given to new learning areas, designations that are more indicative of the breadth of the area of investigation. This problem of increased specialization and greater depth and breadth in subject areas will create a demand that the schools decide all over again what the basic subjects are. It is quite possible that the seven liberal arts and their many modifications will no longer suffice as curriculum designations.

The Knowledge Explosion

Even though the average man in 1969 feels that not much more can be discovered, and he wants to believe that nearly everything that is worthwhile is already known, there is going to be no depression in the field of knowledge. How schools will be able to cope with the knowledge explosion has not yet been decided. Few people have taken it upon themselves to try to answer the question of whether or not all of this knowledge is additional or whether much of it is replacement knowledge for things now obsolete. As the knowledge explosion begins to reach its zenth, schools will have to decide whether or not there are large areas of knowledge that are obsolete.

The field of education is being radically tampered with in the laboratories and classrooms of research and development centers throughout this country. Some of the findings have not been printed and many of the findings that have been printed have not been read carefully. Could it be that R & D centers will find the keys which will help us develop students capable of comprehending whatever situation the knowledge explosion creates?

Nearly every Georgian who sits in front of his television set has to admit that this must be the invention to stop all inventions, but he also knows that this kind of thinking is fallacious. There will be new inventions in the coming years—some that will startle us as much as television. It is essential that educators plan the adjustment to new inventions rather than having the inventions and their counterparts imposed on education.

Modification of Traditional Values

Because of the influence of mass media on the individual, traditional values are changing. Plans will have to be made to cope with even more radical modification of traditional values. One such value being modified almost daily is the value of unity in this society. As a general rule we are becoming more and more tolerant of diversity. This can be attributed in a large part to mass media. As a society we are becoming far more permissive, especially in the area of human sexuality. Television is now programming materials and scenes that just a few short years ago would have caused great public upheaval. Today, there is scarcely a voice of protest. The schools of the immediate future will have to cope with this problem of generations who do not know about the traditional values.

One of the baffling findings of recent years is the fact that children at very early ages can cope with various sophisticated segments of knowledge. Mass media has played a large part in bringing this to focus. Schools must in the future decide whether or not they will provide for early childhood education en masse or continue to let young children be the victims of non-directed learning presented by mass media.

It is true today that mass media do affect public opinion. It is true today also that most of the people behind mass media wish to be objective about the information they distribute. Nonetheless, they do help form opinions. One of the problems of the near future will be coping with the opinions created by mass media. The vast majority of mass media people today consider themselves as agents of stability in this society, but it is of growing concern that many would like to be agents of change. The schools may face great problems in this respect.

There is a great deal of talk about the impersonalization of man and the dehumanizing of man by mass media. It is true that there are Georgians who sit in front of their television sets viewing the pathos of the Vietnam War without much feeling at all. It is true that television stations received great amounts of mail complaining that the Apollo moon shot was interfering with their regular fare of soap operas and old movies. This lessening of sensitivity to the world about us could have grave effects in the coming years. This is a problem that schools will have to cope with.

The problems and conflicts in the foregoing paragraphs must be dealt with by the schools of Georgia. The public school idea has been that the curriculum would reflect what the society is. The decision makers in the next decades in the field of public education have an enormous task.

Mass Media and Communication Systems in 1985

By the time 1985 arrives it will be in vogue to be designing ideas and papers for sometime in the twenty-first century. Man will be predicting the world-wide hook-up of all nations into one mass laser network supplemented by satellites owned and operated by international cooperatives for information, production, and entertainment. Radio, television, newspapers, and magazines will still be around in 1985 in varying degrees of change.

Newspapers and Magazines

The changes in newspapers will be slight. Some changes in format and printing procedures will take place, but the role of the newspapers will remain intact. They will still supply the bulk of daily printed material for quick and easy distribution. Newspapers will cost a great deal more because advertising dollars will be spent more and more in the non-print media. Some newspapers will be experimenting with facsimile distribution by telephone print-out devices, but practically this will not yet be functional and economically sound. Some newspapers will be distributing audio copy for use in the cartridge player, which will have replaced practically all phonographs. Much more color will be used in newsprint than now. Newspapers will be better assembled and more readable, but in 1985 fewer people will read fewer news items than today. They will be more selective and will expect many more in-depth features. Newspapers, however, will not experience much change by 1985.

Magazines will experience some changes, but they will not be basic changes. Special magazines will be printed in many more fields. Magazines designed for different age groups will be more and more popular. More regional and state magazines will be published with extremely wide distribution. Magazine publishers will render more reader services by providing audio and film services in a variety of ways. Technology will improve the process of collecting and processing materials for publication. The influence of magazines as a part of the mass media will not increase measurably.

Radio

Radio stations will multiply and diversify greatly by 1985. Georgia will probably have 500 or more broadcast stations. Many of these will be in very small communities. Programming will be strongly local, but connected with regional and state networks. Radio stations will be doing vast amounts of local advertising and public service programs. The broadcast studios will be distributed all over the community—in stores, in schools, in city hall, and in homes. Closed circuit radio is likely through the use of community cable television. Radio will be the instant and constant town meeting.

By 1985, there should be a complete educational radio network in the State of Georgia. It will be made up of 10 or more FM stations. These stations will probably be owned and operated by colleges and universities and will be used for instructional radio as well as public radio. Combined with a television network, radio can launch a continuing education program for the benefit of all Georgians. This state network will be an essential communication tool for schools. As tape recording becomes even more foolproof and simple, teachers will be able to provide a world of audio information for students. A National Educational Radio Network will be dynamically functioning as a communications tool. The NERN will assist in the development of strong regional radio networks. It is reasonable to expect that schools will have as many tapes in their libraries as they have books, and these will be available for check-out purposes. Most of these tapes can be supplied by national and state radio networks.

Radio will change by becoming a ubiquitous communication device used by practically everyone. Radio receivers will be so remarkably improved that a small pocket model will provide hundreds of clear signals. In 1985 predictions will be made about individual radio transmitters in each home which would virtually make every home a radio station for the neighborhood. Radio is going to grow and will be a powerful force in mass communications in 1985.

Television

Television in 1985 will be quite different than we know it today. The changes will be in program origination concepts, distribution systems, receiver sets in home and school. Some people have predicted that broadcast television from local stations will disappear and give way to a complete local cable system. This is not likely to happen in the foreseeable future, because Congress and regulatory agencies will protect the great investment now existing in broadcast television. The wired city and national grid of inter-connected cables will still be a long way off in 1985.

National networks will continue to distribute by using long lines which are rented from telephone companies. The program signal will come to regional network affiliates and then be fed to local stations. There will be many more local stations than now exist. Georgia's smaller towns may have their own television stations. As the price and complexity of equipment comes into reach of the local economy, smaller stations will begin to be established. Cable television will be available to nearly all households and schools. These cables will be supplying 40 or more channels. Satellite television piped directly to homes will be possible in the latter part of this century, but by 1985 the political-social issues will not have been resolved. By 1985 the distribution systems for television will be composed of stronger national networks, both commercial and public, as well as more regional and specialized networks (i.e., sports networks). Community antenna systems will carry network programs, originate their own programs, and provide booster service for distant television signals.

Pay television will be distributed by cable to those homes which have paid the fee for unscrambling the sight and sound. But the area of distribution most likely to change the televiewing habits of people in Georgia by 1985 will be a TV tape library. Technology is already providing the television industry with an electronic video recorder playback device. This equipment will be built into home receivers in the future. A family will be able to go to the library, tape shop, department store, or super market and rent at a nominal sum a full-length color film or a symphony concert in a small cartridge. This cartridge will be placed in the home receiver much like a stereo tape is today and the program will appear on the television screen. It can be played at the leisure of the family one time or several times, with or without interruptions. This system has exciting potential for classroom use. Today we are seeing the first audiotape clubs (The Tape of the Month Club) emerge. By 1985 *The TV Tape of the Month Club* will be well established.

In 1985 television in this country will have two strong elements—commercial television and public television. Both of these will experience great changes in the future, but the principles supporting them will be sustaining. The basic difference in the two systems will be in the type of communication service rendered. Both will be equally sophisticated in distribution systems and in viewer appeal. Commercial television will become even more an entertainment medium appealing to the relaxed, comfortable, refreshing, and stabilizing influences in man. Public telivision will become even more an information medium appealing to the daily needs of schools and homes in supplying news and public affairs features along with instructional programs.

Educational television in Georgia in 1985 will be viewed in households more than it is today. Schools will also use television more than today. The present microwave interconnected system will be used more and more as a public television system and less for instructional television. It is probable that due to the complexity of scheduling instructional programs the system will be used during the night hours as a distribution system for pre-taping programs to be fitted into the teacher's schedule. Most of the school systems of Georgia by 1985 will have their own systems of recording off the air and playing back to suit their own schedules. Experimental instructional television should develop highly creative approaches to the television now going to schools. It is possible to design a statewide telecast program for exceptional children. Once the system is accepted by teachers and parents, its uses will be limited only by lack of imagination.

Summary

The changes likely to ocur in mass media and communication systems in Georgia by 1985 are very exciting. How they are used will depend a great deal on whether or not they meet the honest, felt needs of people. In the future Georgians will be less passive about what they watch.

Mass Media in 1985 and Their Impact on Education

As has been already stated in this paper, mass media will deeply influence the education of Georgians. Students will be changed by non-school hours spent with mass media, which will force the school to adjust to a different type of student; also, schools and classrooms will have wide assortments of available information delivered in the most attractive, accessible packages.

By 1985, nearly one-half of Georgia's population will be involved in formal education each day. Education will account for the greatest expenditure of public funds. Education will be affluent. Teachers in 1985 will be the best educated, most intelligent corps ever assembled. There is evidence today that the demand for unusual people in education is attracting a higher caliber young person to the ranks of the profession.

Educators will more and more consider in their curriculum judgments the non-school learning of students. By integrating the impact of media on students with the curriculum in schools, more efficient teaching will be possible. The nature of schools will be changed. Concepts of standards, grade levels, and subject areas will vanish. The school will become individualized for the student. Parents will be actively involved by designing with the school the best approach to sustained learning. The nonterminal nature of learning will become more than just a subject for discussion among adult educators—it will be practiced.

The classroom of 1985 should have one wall which could be called *The Information Wall.* This wall, in essence, will be a rear view screen which will receive projections from an array of equipment outside the classroom. The entire wall will be a soundproof, glass rear view screen with equipment behind it. The information wall will provide the teacher and student with any type of projection which is now available without the obstruction of having the equipment in the room and without having to rearrange the classroom. The information wall will provide the teacher an opportunity to create, through that wall, any environment and atmosphere she thinks meaningful for the class. The information wall will be big enough to permit several types of projection to take place simultaneously. On one section there might be a motion picture for a group of students with headsets for audio. Another might have a slide presentation with live discussion, and another section might be projecting programmed information for only one student. The information wall can assist the teacher in individualizing instruction for those students needing special attention. Any portion of the wall could be used at eye level as a small screen for individualized and remedial instruction.

This is only one idea of how the schools will cope with the problem of exploding knowledge. Some way must be devised to assist the individual classroom teacher to assimilate the technology and communication system into a practical operation. If this is not done the advances made are going to be rejected and education will return to the old recitation approach—which will be catastrophic.

Dr. William H. Hale, Jr. is associate director, Georgia Center for Continuing Education. He serves as station manager of WGTV, Channel 8, the University of Georgia's educational television station, and he is responsible for other functions of the communications division. Dr. Hale is a member of the Board of Directors, Southern Educational Communications Association, and a member of the Board Committee of National ETV Program Service. He is listed in "Who's Who in American Education" and is a frequent lecturer on college campuses across the nation. Dr. Hale is a member of numerous professional and honorary organizations. Aside from his work with the Georgia Center and ETV, Dr. Hale serves as an instructor for the Internal Revenue Service Training Officers Workshop and as an instructor in sex education for youth groups. He is a consultant-lecturer for the Public Health Service, a consultant for public school systems, and a training specialist with private businesses. Dr. Hale received his Ed.D. degree from Florida State University.

critique:

Communications Systems and Mass Media in Georgia

By
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WORKING within the time limitations of a pressing deadline, Dr. Hale overall has done an adequate and professional job with his subject. However, there are several viewpoints in the paper with which I disagree, or on which I will elaborate. Also, I feel that the author did not touch on several probabilities in the communications field of 1985 which I will include in my critique.

Early in his paper Dr. Hale gives statistics on Georgia's daily and weekly newspapers. Here is up-to-date information about them, based on the Georgia Press Association's 1970 Directory.

Daily newspapers have a total circulation of 968,934; weeklies 530,019, giving a combined total of 1,498,953. The GPA has 215 member newspapers of which 30 are dailies, five semi-weeklies, and 180 weeklies.

Dr. Hale refers to *The Atlanta Times*. He says the newspaper folded for lack of advertising and circulation. I would also add because of a lack of reserve capital to keep the paper going until it could operate in the black. I think one of the biggest factors in its non-support was that advertisers did not want to pay for duplicate circulation caused by persons subscribing both to *The Times* and to its wealthier and established afternoon rival, *The Atlanta Journal*.

I think the author oversimplified his interpretation of results of the survey by the Television Information Office. I am not surprised that this agency would find that more people receive their information about the world from television than from newspapers. However, I have read the results of such surveys made by radio and newspaper organizations which indicated that people got their news mainly from radios or newspapers, respectively. Also, some surveys have shown that people think newspapers give them the most accurate and the most complete news.

I agree with the author that probably more people look at television newscasts than listen to radio news or read newspapers, but that does not mean they get most of their information about the world from television. Television and radio do not report news in detail as do newspapers and magazines. Actually, the media supplement each other, so a better statement would be that the public looks to all the news media for their information about the world.

I agree with the author's statements that overall, Georgia newspapers are good. However, I do not think that Georgia has any truly outstanding newspapers judged from a national viewpoint. *The Atlanta Constitution* used to be rated consistently among the "Ten Best" in the country — largely, in my opinion, on the reputation of its late editor, Ralph McGill. *The Constitution* might still be rated so, but newsmen elsewhere in the country have told me that in their opinion *The Constitution* is not what it used to be. Also, it should be noted that many people within Georgia itself refer to *The Atlanta Constitution* and *The Atlanta Journal* as "them lyin' newspapers." While this reference in my opinion, is not justified, many Georgians undoubtedly believe it. However, the influence of these two newspapers in the State continues to be great, as Dr. Hale pointed out.

I do not understand the author's statement that "Educational radio is not a byproduct of commercial radio." How could it be otherwise, since the first radio stations were — and still most of them are — commercial?

I disagree with the author's statement that computers "probably never will be widely used in education, at least not in the next 50 years." Also, this statement seems to contradict a succeeding statement that "The educational community will have to face and solve in the near future the matter of classrooms being filled with the overproduction of American industry." I would think that the computer and its allied products would be included among the "overproduction" of industry alluded to. If the Commission is interested in data on the computer and education, I recommend the book edited by Peter H. Rossi and Bruce J. Biddie, *The New Media and Education: Their Impact on Society*, Aldine Publishing Company, 1966. (Also in paperback, Anchor Books Edition, 1967).

The author did not deal with the increasing use of computers and automation in the publishing field. I will treat that subject in some detail, because I think its implications for the future of the communications media are most important.

For some years printing for some publications has been done from computer-justified tape. A modern Linotype can produce 900 or so lines of type an hour, but a computer can hyphenate and justify type-setting tape at 12,000 lines an hour.

We speak at about 120 words a minute, but modern equipment can transmit 4,000 words a minute. New optical character recognition devices can read 28,000 words a minute.

More than 100 newspapers in the United States now have computers for direct production applications. The major wire services are using computers and high-speed transmission methods every day to move massive news reports.

It is now possible by using computers to edit and produce newspapers and other publications entirely by mechanical means. But we will continue to need bright, knowledgeable, skilled people behind the computers to provide the raw news and informational material. Such editing by computer, coupled with increasing automation in printing production, will lower production costs in relation to total costs and could mean more money to spend on the editorial product itself.

Information storage and retrieval using the computer is just in its infancy and will become more refined and sophisticated in the coming years. Georgia Tech now has a graduate program in the School of Information Science dealing with this new technology. The ability to produce, store and then select from vast quantities of news materials and background information stored in computers should help produce better newspapers and magazines and better newscasts on radio and television.

News reporters working away from their offices can now use a portable transmitter to send a coded text at 600 words a minute over regular long-distance telephone lines. Maps, diagrams, photos, and pages of text can be sent by facsimile transmission.

A reporter by 1985, perhaps sooner, may be able to type his story on a special paper form so his copy can be read into a computer's memory banks by an optical-reader device. The computer will store this material and produce a printout for editing, with a copy to the reporter. The edited and corrected copy then will be read again by the optical reader and the editor's changes will be made automatically before the final news story is printed.

Also, a reporter will be able to type his story; the impulses he creates will be recorded on magnetic tape (including corrections or content changes as he goes along, will go into the computer's storehouse and print out copies for both the reporter and the editor.

Before long, probably before 1985, the reporter will simply "talk" his story into the computer which will convert his voice signals into electronic impulses that will punch tape or otherwise convert the story into printed news.

There is also the possibility of programming a computer to write simple stories itself from facts read into the computer. This indeed already has been done.

Computers can be used in the process of editing and makeup of newspapers and magazines. They also can help in the selection, play and display of news.

Such improvements in newspapers and magazines — and in the whole publishing business — will mean more jobs and better jobs for journalists.

But tomorrow's reporter and editor will not have electronic tubes for a heart, wiring to replace his veins and arteries, nor a punched paper tape to replace his brain. In other words, journalists will not be robots. Indeed, the specifications for tomorrow's reporters and editors will be for even more intelligent, more imaginative, more perceptive, and more adaptable men and women. And lots more of them.

The implications for education—and particularly education in journalism and communications — are obvious. Such education must be expanded both at the University of Georgia and at Georgia State University. It also must be extended to other institutions of higher education in the state, both in the University System of Georgia and in the private institutions.

But computers and all the rest of the new technology in communications are not the answers to better communication in Georgia. The problem of communication — and its answer — lie just as much as ever, and perhaps more than ever, within the minds of people. The central problem is the communication of *understanding.*

We live in an age when there is no problem in creating information. That problem will become even simpler in the years ahead. We are drowned in a sea of words and facts every day. Our problem today is, and in the future will be, to learn how to communicate and create an understanding of the meaning of all this information and how to react to it. That is the job of the communications media — using the new tools of technology.

The functions of writers and editors will remain the same, but the tools used to perform those functions will be much changed.

News copy will be fed into a computer-like system when it arrives in the office—whether it comes in by wire, is typed in by a reporter, or is called up from the morgue (reference library).

The copy then will be manipulated electronically, displayed on television screens that will be a part of every editor's desk, and dummied into a page form by shifting and correcting the information on the screen with light-pencils and light-erasers.

Editorial research for backgrounding and giving depth to the stories will be easier and faster. The morgue will be electronic, rapid, and selective. Commercial firms also will sell news and background information services by wire.

Publications will be closer to the readers in both time and space. Many will print simultaneously from different locations. The time from the editor's desk to printed page will be reduced to a few minutes. Edition-to-edition changes will be easier and less costly than today.

There will be no more typesetting in most newspapers and magazines. The page image given final approval on the editing display screen will be transmitted directly to the printing plate at the push of a button.

Electronic local and regional information and news services will be sold by publishers over the data transmission facilities of the telephone systems.

All the news material that comes into the newspaper or magazine editorial office will go into an electronic information system connecting editorial desks, wire services, the morgue, an electronic automation news library, and the composing room.

Typewriters and optical scanners that can read printed text will be the principal means of input. The system will store news material just as an electronic computer today stores information introduced into it.

Editorial direction of the computer system will be exercised through electronic editing consoles which will provide display screens like TV sets for editing and display purposes.

The dissemination and reception of newspapers and magazines also might be much changed, but again not likely on a large scale. The Radio Corporation of America back in 1967 announced plans for delivering print newspapers over television channels in the future. Perhaps by 1985, some newspapers and magazines will not even be published on presses. They would still be produced by reporters, editors, analysts, investigators, and editorial writers. We may be able to sit in our living rooms, press a remote control button, and at our pleasure and convenience flip the pages of a newspaper as it appears on the wall.

Dr. Hale did not treat the ever-growing tendency toward monopoly ownership of the communications media in Georgia and throughout the nation—a tendency likely to be even more pronounced by 1985. Bigness is not and will not be confined to the communications industry, of course. We have bigness and will have it in business, government, entertainment and education. Operations in all these fields will be even bigger by 1985. The pertinent implications in the communications industry will be an ever-narrowing diversity of opinion and editorial viewpoints because of monopoly situations.

Along with the increasing bigness of newspaper operations, these situations have arisen in connection with news coverage and dissemination and will probably become even more pronounced by 1985.

- Local news, for more than 100 years the main commodity of the daily newspaper, seems to be diminishing in value.
- In place of much local news, we now have specialized news. Indeed, each profession, each trade, each industrial skill now requires its weekly or even daily supply of expert information which the general newspaper cannot begin to touch. It seems another specialized journal is born every week.
- To cover the "general" news, one already can publish a centrally edited national newspaper from regional distribution plants, as has been done for years in England, Japan, Russia, and other countries.
- The new technological techniques of providing new means of producing and delivering printed information seem

to discriminate in favor of the big centralized operation and against the locally edited newspaper.

- These new techniques appear likely to require huge blocks of capital investment far larger than individual newspaper ownership can amass. Capital and management skills increasingly will concentrate on mass markets in the interest of efficiency and unit-cost reduction.

Therefore, there are the four possible types of newspaper organizations for the future, plus possible combinations of such types.

1. *No change.* Metropolitan newspapers would continue to contend with suburban newspapers. Non-metropolitan newspapers will be as strong as their markets. A few regional newspapers will prosper. In general, strong publishing properties will get stronger, and weak properties will fail. These strong groups will continue expanding but at present show no tendency to evolve into nationally significant news networks based on their present rate and pattern of growth.

2. *Evolution of the newspaper industry on two levels—one strictly local and one strictly non-local.* Big nationwide newspapers, perhaps delivered electronically, would cover the national news and advertising. The economics involved in such mass publications might even permit a return to the good old days of competing newspapers (but on a national scale) in the same town. Meanwhile, local news and advertising would be delivered in entirely separate publications as often as the market merited, not necessarily every day.

3. *National newspapers with localized editions. The Wall Street Journal,* for example, already publishes such editions. Technology makes the process simple. Each local bureau of the newspaper could wire its news and ad copy to the headquarters computer. The entire newspaper would then be made up in headquarters, set in type or whatever process of production is used, and retransmitted back to the dozens of regional plants for printing and distribution.

4. *Newspaper networks.* Groups of individually owned newspapers might join to set up an information network or the like to provide the individual newspaper's non-local content. The network would plan the coverage, pick the stories, determine the play and display, handle the research and writing, work up the pictures and other illustrations, lay out the pages, and "set" the "type" by the latest electronic means. Local content would be added to round out the local newspaper.

The use of microfilm in publishing is a possibility, but not a probability, by 1985. Why bother with the printed page at all, one might ask? Instead of large sheets of paper for newspapers and magazines, why not read the publication by using a projector, or perhaps a "reading microscope"? The cost of publishing could be reduced tremendously, huge amounts of storage space would be saved, and the cost of distribution would be cut down immensely.

In appearance, content and attitude, the newspaper's personality in 1985 probably will be different. A whole new concept of typography and makeup will emphasize graphic excitement and exploit type's ability to communicate feeling as well as fact. There will probably be a new philosophy toward content, with day-to-day routine coverage downgraded in favor of high-impact roundup stories, trend stories, and personality pieces. The accent will be on planned rather than reactive coverage.

None of this preceding discussion, however, is intended to support a possibility that the print media as we now know them will be obsolete by 1985. Nor do new methods necessarily mean better newspapers and magazines — although such methods should be very helpful. I believe there still will be printed publications, even though they may exist side by side with some publications retrieved by readers through electronic systems already alluded to.

In fact, I believe the adoption of the new technology will be gradual and not likely to be in widespread operation by 1985. The reasons are largely economic.

Publishers have vast economic stakes in their present plants. They are not about to scrap their equipment right away in favor of expensive innovations still in the process of evolution and which might be obsolescent by the time they are installed. Witness the slowness with which publishers have gone to the offset printing process, automatic typesetting from perforated tapes, and the adoption of the computer itself in preparing news copy.

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critique:

Communications Systems and Mass Media in Georgia

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THE position paper by William M. Hale, Jr. undertakes a complex and formidable task and in my opinion, is partially successful.

After reading Mr. Hale's study of mass media in Georgia — past, present and future — I feel that he has reached some acceptable conclusions, but not always by means of precise research or in carefully-chosen language. In fact, the entire manuscript has an uneven quality. Portions appear to have been hastily put together, and other parts reflect better planning and preparation.

The growing influence of mass media, especially radio and television, is recognized and given respectful treatment. Doubtlessly, ours will be even more of an electronic world in 1985 than it is today, and our homes, schools, and educational methods will all reflect this state of affairs. In handling this basic portion of his study, the author does a creditable job.

However, the background information about both printed and electronic media could have been better prepared by consulting more thoroughly the facts available in numerous books, the files of the National Association of Broadcasters, the Georgia Press Association, and the Georgia Association of Broadcasters.

Throughout this paper, frequent usage is made of nebulous terms and questionable statements that defy proof.

Examples:

1. "Some papers have very forceful editorial policies, and today it is the rule rather than the exception for newspapers to try to force their opinion on the readers." How is this force applied?
2. "Georgia's newspapers, as a rule, are as good as any in the nation." By whose rule? Is there really a newspaper in Georgia that is comparable to the *New York Times?*
3. *Action Line* in the *Atlanta Constitution* is described as a type of "editorializing." Isn't it more nearly a specialized and personalized informational service?
4. "Georgia's households are basically filled with newspapers." Name one?

What does this statement really mean?

5. "Georgia is rich with good newspapers." Even newspaper editors of the state would argue with this declaration.

6. "The newstands in Georgia's major cities once sold only a dozen different magazines . . ." If the word, "dozen" was intended to mean, "few," it's still part of a debatable sentence.

7. "However, the mere fact that magazines are more preservable and durable than newspapers makes them more powerful as persuasive tools in the hands of the editors and writers."

The author makes this assertion without offering the slightest bit of evidence to support it. Personally, I have found that a magazine *per se* is only more powerful and persuasive than a newspaper in swatting flies.

8. "Newspapers and magazines inundate Georgians with available information." Another carelessly-worded statement that cries for an editor's pencil. Actually, thousands of Georgians read no newspapers or magazines, and our state is far from "inundated" with reading material.

9. On page 467, the author states that the first broadcast station in America came on the air in 1920. On page 468, we are told that an "education radio station went on the air at the University of Wisconsin in 1919. Which was first?

10. "Public television considers itself an agent of change in society. Commercial television considers itself an agent of stability." The author has a right to such opinions, but it is extremely doubtful that any knowledgeable person in the television industry, commercial or public, would deny that the medium is an agent of change in society.

11. When the author claims that it is common to hear of new homes in Georgia being built with television wired in every room and with built-in sets in the walls, we suspect that he ignores what the word "common" means.

12. In explaining the scarcity of television stations in smaller cities, the author blames lack of advertising. Actually, the number of TV channels available throughout the United States is limited technically. Under present broadcasting standards, we can never expect to have television stations in numbers comparable to our radio stations because the channel allocations do not exist.

13. We can only label the following line a non sequitur: "The average man listening to another man lecture is capable of absorbing much more."

14. I also question the author's contention that television-viewing lessens the individual's sensitivity to the world about him. There is massive evidence that the opposite occurs. Millions of people are aware and aroused, as never before, about the people and problems of the world. Indeed, one of the recurrent criticisms of television has been the claim that it too easily stirs emotions and "triggers" many of the momentous events it reports. In addition, mounting evidence pinpoints television as a dynamic force in reshaping our ideas about government, morals, entertainment, economics, and human relations. This certainly indicates TV's ability to increase, rather than decrease, the individual's sensitivity, the loudness of his voice, and the power of his opinions.

The author's Bible-type progression of communications media in evolution alludes to the social changes that accompanied these developments. He fails to treat fully enough how media in the future will do much more than reflect our world but will enormously influence the type of world we inhabit. Marshall McLuhan notes that *"Societies have always been shaped more by the nature of the media by which men communicate than by the content of the communication."*

Many experts are convinced that our schools will be changed drastically by 1985, not simply in order to accommodate new communications media but because our electronic world of instant awareness will have dictated that schools must change in order to have any meaning or to be useful to tomorrow's student. I do not feel that Mr. Hale has fully appreciated how electric circuitry has already altered enormously our concepts of "time," "space", and "education." Our schools and teachers have only to learn what the student already realizes — the classroom is as big as the universe and wired for sight and sound.

It is entirely possible that within the next 15 years the walls of many schools will have disappeared as more and more students depend not on traditional classroom instruction but on a variety of human experiences and mechanical mentors to carry on the educational process.

The most vital factor shaping the future of mass media and education will not be our inventive capacity but man's ability to create a context within which he can utilize effectively what he has made. Present day unrest on the campus suggests that the academic environment in 1985 must be pertinent to the needs and interests of a new breed of scholar. It is difficult to imagine a student who has been reared in a universe of electronic informational media settling comfortably and agreeably into a traditional classroom-teacher arrangement.

Once again, I quote McLuhan. *"The classroom is now in a vital struggle for survival with the immensely persuasive 'outside' world created by new information media. Education must shift from instruction, from imposing of stencils, to discovery — to probing and exploration and to the recognition of the language of forms."*

The civil war already underway among numerous students of the United States and elsewhere in the world is not sufficiently reflected in Mr. Hale's paper. Nor, in my opinion, has the author fully appreciated the enormous changes that will inevitably occur as a result of these conflicts by 1985—changes closely involved with and related to our communications systems and mass media. Georgia is no exception in this revolutionary movement.

In all fairness, we recognize that it is a difficult assignment for any reporter to transport himself mentally to the future and to prophesy what types of communications systems and mass media we will have in 1985.

In attempting to make such a forecast for the state of Georgia, Mr. Hale has combined restraint and vision in a manner that is generally convincing.

He appears on safe ground when he predicts many new communications gadgets and devices. The inventive deluge continues to flood us with unique concepts in electronics, mechanization, and automation, but the author fails to show how these changes in devices will inevitably affect the types of media we will have in this state in 1985.

Newspapers — he thinks — will be generally unchanged. He has the same opinion about magazines. Yet Richard L. Tobin, respected author and associate publisher of the *Saturday Review*, is only one of many authorities who believes vast changes are in prospect for print media. Writing in the May 10, 1969, issue of the *Saturday Review*, he describes electrostatic printers silently churning out abstracts of news on a variety of subjects selected from a computer news bank. Cathode ray tube units, he says, will connect the reporter to a computer operated morgue. This is already fact, not supposition. Members of the American Newspaper Publishers Association have watched demonstrations of processes that will doubtlessly send the letterpress into limbo. *"And the conventional newspaper — by 1985 — may well have been absorbed into an electronic complex, reported, edited, printed, and distributed by means as fanciful as anything in Buck Rogers."*

The author's skepticism about computers may reflect a widespread feeling among educators, but I seriously question the justification for such a far-sweeping claim as this: "These (computers) were not built for education and probably never will be widely used in education, at least not in the next 50 years."

How can anyone make such a blindlydogmatic prediction? General David Sarnoff has already expressed the belief that by 1980 computers will respond to handwriting, to images, and to spoken commands. Consider the educational possibilities in such computer versatility.

Similarly, should any knowledgeable educator make this statement — "Even though the average man in 1969 feels that not much more can be discovered and he wants to believe that nearly everything that is worthwhile is already known . . ." To the contrary, even the average man realizes that ours is an age of constant discoveries. Virtually anything is possible, and the ordinary man-in-the-street knows it.

A study of this type could very well have used more information about numerous new inventions already available — but not yet widely used — that are destined to play a major role as communication devices and educational tools by 1985. One such development is ultramicrofiche (UMF). Its possibilities are beyond calculation. UMF is able to miniaturize a printed page to the extent that 2000 pages can be reproduced on a transparency no larger than a post card.

The world's largest and finest collections may now become widely shared. And individual homes or school rooms can store entire libraries in a small drawer.

This will mean that new school and community libraries can be built at a fraction of the cost of present design. Space saved by removing the need for book shelves can be used for video and recording rooms. Lecture halls and research rooms, fully equipped with projection units and electronic aids, will make the library of 1985 a communications center.

The student of the future may well do his research work by feeding his questions to a computer console. In short order he will receive a printout of the bibliographic data he requires. Then the student can choose the references he wants to pursue and have them available in short order for viewing on a UMF magnifier.

Despite its shortcomings, this position paper is most effective when it deals with education and the mass media. Here the author is obviously in familiar territory. He knows the educator's world, and while he admires the marvelous communication devices available to the teacher, he is determined that the television set must never replace the classroom teacher.

Nevertheless, he recognizes that our modern media, especially television, are influencing the thinking and the values of youngsters and grownups alike, and he suggests that schools will have to learn to cope with future generations of "video" children.

However, the author strikes a contradictory note when he suggests that schools will have to decide "whether or not they will provide for early childhood education en masse or continue to let young children be the victims of non-directed learning presented by mass media." Does he seriously believe that schools can have the privilege of making such a choice? Isn't it obvious that our children will continue to be educated by their electronic environment, regardless of what teachers may wish to say or do about it? We all live in a mass-media world, and it is inevitable that these communication devices will be among our foremost "teachers" of the future.

Leisure and Recreation in Georgia

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OVER the next 15 years we will see a continuing advance in the interest and demand for recreation opportunities, both indoor and outdoor. In an affluent and mobile society, one in which there are drastic changes taking place, recreation has assumed a position of major importance in the way of life and in the economy.

With this newly found prominence for recreation comes parallel problems for the state, cities, and counties, educational institutions and private agencies. As people have more free time they visit the recreation areas to a greater extent, a fact which places additional strain on our already heavily used areas and facilities at all levels.

Major concerns for the State of Georgia, local government, and private agencies are the acquisition of park acreage, facility development and orderly planning which will preclude duplication and adequately forecast the areas of most severe need. Of equal concern are the funding of programs to insure quality results and the ever present problem of locating competent leadership.

Education holds a prominent place in the entire scheme. It is the responsibility of education to establish the proper educational setting that will adequately prepare people for abundant leisure and to help students to better understand and appreciate the environment. Equally important is their obligation to prepare well trained professionals who can inject the leadership prowess demanded by the broad field of recreation. Public schools particularly can contribute sizably by joint planning and cooperative efforts with public recreation agencies and by extending and strengthening programs that develop a wide variety of recreation skills, especially those which can be practiced throughout life.

In assessing the recreation conditions, present and future, of Georgia it seems only logical to analyze momentarily what is meant by the terms "leisure" and "recreation."

Recreation and leisure are not synonymous. It is true that recreation takes place during leisure, but all leisure is not occupied with recreation or play, particularly in the case of "enforced" leisure. That is, leisure we do not truly seek—such as that which is forced upon us by retirement or an extended illness.

To say the least, leisure is difficult to define and almost any definition can be debated. It has different meanings for different groups of people and varies with individuals. Some view it simply as the time they have free from work. Others view it as in instrument for social control, a status symbol, an organic necessity, a state of calm, quiet contemplative dignity, or a spiritual, aesthetic, cultural condition. A few insist that there just isn't any leisure, or that only negligible amounts of it are present in contemporary society.[1]

For the purposes of this report, it will suffice to say that leisure is a block of unoccupied time when we are free to do what we choose. It is the time beyond that in which we must do those things biologically essential, to stay alive (that is, eat, sleep, eliminate, medicate, and so on) and the things we must do to pay for what we want done if we do not do it ourselves. Leisure time is time in which our feelings of compulsion should be minimal. It is discretionary time, the time to be used according to our own judgment or choice.[2]

"Recreation" is interpreted in many ways. Reading, listening to or playing music, mountain climbing, painting, gardening, collecting stamps, dancing, swimming, camping, bird watching, and doing a scientific project just for fun are all forms of recreation. Recreation is activity engaged in during leisure and primarily motivated by the satisfaction derived from it.[3]

When one then views recreation in such terms, it is obvious that the traditional thinking of many people which limits recreation to the playground, the little league diamond, or to the environs of the teen club is absurd. Likewise, it is equally impractical to restrict the idea of recreation to only those activities which are highly organized, and scores of Georgians see recreation in just this light. Still others would limit recreation to only those activities sponsored by local units of government.

Since this type of traditional thinking has become so prevalent during the past several years, the pure outdoorsman or conservationist or park administrator seemingly has to qualify his activity in recreation so as not to identify it as simply "recreation" for fear it will be misunderstood. Some place their activity under the heading of adult or outdoor education, and many youth-serving agencies operate under the banner of character building.

All of this only dilutes, for the general public, the true significance of recreation. The result of this kind of misunderstanding can inflict serious blows to recreation development in Georgia and elsewhere. It is of great importance that the general public and particularly those in positions of leadership clearly understand the role of education in the lives of individuals and in the life of the community.

If, for example, those who devote a good portion of their time as members of the General Assembly and those men and women who serve in elective positions in local government view recreation as a rather passive and non-essential ingredient of state and/or local community life, recreation will suffer. But what is of more urgent concern—the people of Georgia will suffer. The point to keep uppermost in mind is that the development of recreation opportunities and parks throughout Georgia now and in the future will reflect the views of the policy makers, those who control the dollar.

This is why it is of paramount importance that steps be taken to interpret, on a broad scale, the role of recreation and its far reaching values to our cities, counties, and our state.

What Are Its Values?

Recreation's values to man are immeasurable. It makes life more meaningful and abundant, healthier, and happier. This is without question, for through most recreation experiences comes an increase of circulation and respiration, or a feeling of identity, or a satisfaction which contributes to one's self confidence. These are recreation's own rewards. It also has safety values.

The educational values are outstanding in helping one better understand and appreciate the world in which he lives. It strengthens character and citizenship of the individual by equating privileges with responsibilities, encouraging respect for the tastes and interests of the individual and resolving freedom of choice with standards for democratic living.[4] Recreation is a successful promoter of health in helping to prevent physical and mental illness, and it helps patients to more speedily recover from illness or disability and expedites rehabilitation. It substantially supports the morals and culture of the people. Socially acceptable recreation is practically without a peer in strengthening and preserving the best in children and youth and stabilizing family and community living. It contributes sizably to the alleviation of social ills, a point emphasized in the findings of the Report of the National Advisory Commission on Civil Disorders.

The economic resources which recreation offers to cities, counties, and to the state are certainly worth consideration. It not only renders communities more attractive to home owners and business investors, but it also creates jobs, goods, and services in man's largest period of consumption—his leisure. It helps to keep the vacation dollar at home. By investing in desirable types of recreation pursuits communities and the state will not be forced to expand as much for penal, medical, and hospital supplies.

Again, recreation's full potential cannot be realized in Georgia until the general public is made aware of what it is, what it does, and what its role is in the life of the individual and in society as a whole.

Factors Affecting Recreation Demand

Georgia's problems are far more complicated than merely planning activities for people. This is relatively simple when compared to the fundamental issues relating to the future of Georgia's recreation potential.

Yet it is far more urgent and basic for Georgians now to begin looking critically at what is happening to its natural resources, the one thing that will affect man and his moods in future years more than any other. It might be appropriate at this juncture to pose the question—what are local, state, and the federal governments doing to insure a compatible environment in future years? This is not to say that recreation demands are the responsibility of government alone. They are of equal concern to the private sector. The two, government at all levels and private enterprise, must have a common objective in improving our environment and maintaining its quality.

The situation as it now prevails in Georgia and in most parts of the United States presents a unique irony. Very little, comparatively speaking, is being done to acquire critically needed land for recreation purposes and to clean the waste from the rivers and streams. And while little action is being directed towards the elimination of encroachment by highways, etc., on existing recreation land, problems of vast proportions continue to move upon the populus like a plague. A brief examination of some of these problems follows.

Population Increase

The projections of the Institute of Community and Area Development at the University of Georgia, in preparing the Socio-Economic Characteristics of Population to 1980 as a part of the Georgia Outdoor Comprehensive Recreation Plan, indicate that by 1970 the state's population will be 4.7 million and that by 1980 there will be 6.0 million inhabitants.[5] This seems realistic when likened to the Atlanta Region Metropolitan Planning Commission report on Regional Nature Preserves which predicts the Metro Atlanta region will reach more than 2.0 million by 1985. As population increases, there is an increase in the shortage of recreation opportunities as well as an increase in those sociological reasons that make people want recreation.

Additional Money

People in this state are now earning more and will likely continue to do so. In 1960 the median family income in Georgia was $4,208 compared with the national average of $5,660. However, Georgia's family income increased by 121.1 percent during the period from 1949 to 1959 whereas for the United States as a whole the increase was only 83.5 percent. Similarly 35.6 percent of all families in Georgia earned less than $3,000 in 1960 compared with the national average of 21.4 percent.[6] It is generally conceded that salaries will increase even more as people acquire more education. The point of relevancy is that people will have more money in the next few years, and in all likelihood they will spend more for leisure activities.

Increasing Leisure

As people have more and more free time at their disposal the need for wholesome recreation opportunity will become more acute than ever before. Although there has been a sharp decrease in the average work week, the reduction has been less marked in recent years. The average work week has declined by approximately one-third since 1880, from 61.9 hours in that year to 40.7 hours in 1963.[7]

The National Outdoor Recreation Resources Review Commission Study projected a decrease in the annual hours of work for each Atlanta area employee on an annual basis of 109 hours for the period from 1960 to 1970.[8] About two-thirds of this decrease was said to be because of the reduction in the average work week, and the other one-third was accounted for by increased vacations and paid holidays. Recent federal legislation which will be effective in 1972 will place more holidays adjacent to weekends, producing even more long weekends.

A study by the Atlanta Metropolitan Planning Commission indicates that workers in the five-county metro area will reduce their work week to approximately 37 to 38 hours by the year 1980.

A summary of the findings with reference to leisure time in Georgia through 1980 follows: first, there will be a very small reduction in the average work week; secondly, working hours will probably be redistributed, and this will probably mean an increase in the number of paid holidays and paid vacations, a factor which will result in an additional two to three weeks of leisure for the average Georgia worker. To say the least, such developments will multiply sharply the demand for additional recreation areas and facilities.

Mobility

Coupled with the fact that we will have more Georgians who will also have more money and additional discretionary time in the next few years, is the fact that they will be even more mobile than they now are. Their inability to travel will be due only to a lack of enough highways and to urban congestion. This mobility will contribute to an insatiable desire to reach recreation areas even more often.

Better Education

It has been observed that the level and

quality of one's educational background has a definite parallel with his recreation appetite. As we become better informed, our desires for more quality in our recreation outlets are increased, giving rise to the need for better planned areas and more imaginative programming.

These are not intended to represent an exhaustive list of the factors influencing recreation demand. One could also delve into the aspects of industrialization and technology in terms of what the "assembly line method" of work does to man's desire to create and into some of the conflicts arising from the urban dilemma, but it is felt that the point has been covered satisfactorily for the purposes of the report.

What People Do with Their Free Time

In making a general assessment of what Georgians do during their free time the findings of the Outdoor Recreation Resources Review Commission Report of 1962 and subsequent materials are most applicable. Since no such assessments have been made specifically for Georgia, the ORRRC data provides a substantial portion of the basis for the assumptions that will be made.

Before this thought is pursued at greater length, however, let it be understood that this analysis does not concern itself with organized activities alone but includes all of those things voluntarily engaged in at a person's own discretion.

Steadily increasing participation in all phases of recreation for the past 25 years has amazed observers, as well as alerted local, state, and federal agencies to its implications for the future. The ORRRC Study revealed that participation in all outdoor recreation pursuits would increase four times between 1960 and 2000. Subsequent studies give credence to this prediction since the increase from 1960 to 1965 was 51 percent.

Practically all studies relating to this subject substantiate the claim that water activities are most popular. In urban or rural areas, water is a magnet. Wherever they live, people show a strong urge for water-oriented recreation.[9] The ORRRC Report cites what Americans do most during their leisure and also what their preferences are now and what they most likely will be in the future. Extremely high on their list are activities which occur on, in, and around the water. For example, fishing, swimming, and boating have a high ranking in what people actally did and what they wanted to do in the future.

This holds particular significance for Georgia since this state ranks as one of the foremost in water sports in the United States. The Southeastern Regional Office of the Bureau of Outdoor Recreation recently reported a total of 227.5 million visitors to the U. S. Corps of Engineers reservoirs in 1968. The report goes on to state that Georgia has four Corps of Engineers water impoundments which rank in the top ten visited during that year. They are Lake Sidney Lanier which holds the distinction of being number one with a total of 9,324,800 visits; Lake Allatoona which ranks third; Clark Hill, sixth; and Lake Hartwell, ninth. This will give some reasonable explanation as to why Atlanta is generally regarded as the "Inland Boating Capital of the World," an honor it is likely to hold for some years to come.

In a discussion of this subject George Bagby, director of the State Game and Fish Commission, emphasized repeatedly that "Americans have truly gone out of doors" and substantiated the claim that most of this exposure is water oriented. To illustrate this, Mr. Bagby pointed to the recent increase in the number of fishing and boating licenses issued by his department.

A total of 65,000 boats were licensed in 1966 as compared to 100,000 in 1968. Since the Commission licenses only those craft with 10 horsepower motors and above it is safe to assume that the total number on Georgia's boats far exceeded 100,000 during 1968. To further extend this point, it is interesting to take note of the fact that no sailing boats are now required to register and increasing numbers of small sailing boats can be frequently observed on our lakes.

Fishing licenses issued in 1968 in the state reached 507,166, and separately 82,715 combined hunting and fishing licenses were purchased. This was a total of 589,881 fishing licenses issued to Georgia citizens, a fact which makes it easy to understand that fishing ranks eighth in the United States in popularity among the activities composing outdoor recreation pursuits.

Swimming is becoming so increasingly popular with people of all ages that it will be one of the highest ranking outdoor recreation activities by 1980. The ORRRC Study projected a 72 percent increase in swimming by 1980. This projection will probably hold true in Georgia because the Parks Department enjoyed a 50 percent increase in swimmers between 1962 and 1967. Similarly, reports from local government indicate a like increase in swimming during the same period.

With the increasing number of water impoundments being proposed by various agencies it is certain that this activity will increase considerably by 1985. Although there is no way to accurately estimate what the percentage rise will be, it seems reasonable to assume that it might increase as much as 50 percent during the next fifteen years.

Sports and games, both indoor and outdoor and including all of those played throughout the year, make up the largest activity of most of our county, city and private recreation agencies in Georgia. Seventy local recreation departments operating on a full time basis are heavily involved in this segment of programming. A recent study by the Georgia Recreation Commission revealed that approximately 80 other communities operate part-time or seasonal programs, the majority of which are in the category of games and sports. Private agencies, the number of which has practically doubled since 1960, operate programs which are largely sports and games oriented.

A point of principal import to consider is that practically all of these agencies offer extensive indoor games and sports during the fall and winter. They include volleyball, shuffleboard, basketball, tennis, badminton, handball, kickball, roller skating, and tumbling to name a few. Therefore, the contention is that the number one activity grouping in this state is games and sports. Furthermore, there is nothing to indicate that this trend will not continue for years to come.

Findings have indicated that walking for pleasure has the highest ranking and has increased in popularity faster than any other major outdoor recreation activity. It increased 82 percent from 1960 to 1965, replacing driving for pleasure as the topmost activity and will reportedly increase another 49 percent by 1980.[10] Walking for pleasure was actually third in popularity in 1960 and is predicted to remain there through 1980.

Although driving for pleasure held the first position as the most popular activity in 1960, it is expected to fall to fourth by 1980 and remain there for an indefinite period.[11]

The most popular activities participated in by those using Georgia State Parks are tent and trailer camping and swimming. Cottages for overnight visits are in more demand now than they were a year ago. Over a five year period, from 1963 to 1967, visits for camping, cottages, and swimming increased at a rate of 135 percent. However, these are the types of opportunities most predominant in our state parks. While we cannot question the obvious growing demand for the activities just mentioned in our state parks, it is appropriate to say that more variety of activities is needed in them. One of the most apparent omissions are nature interpretive centers. In other states these are known to attract thousands and contribute sizably to an understanding and appreciation of nature and environment.

According to Henry Struble, deputy director of the Parks Department, older citizens travel like "nomads" from one park to another throughout the year, a trend he feels will definitely be on the increase during the next 15 years as people retire earlier, acquire more disposable income, and feel a more urgent need to escape from the furious pace of the urban centers.

It is significant to note the variety of offerings of the public and private recreation agencies. Although, as mentioned elsewhere, heavily endowed with games and sports, they are always exerting efforts to vary their programs and to provide comprehensive services, attempting to be ever sensitive to the needs and interests of all people. A brief analysis of the opportunities that they generally provide will give us better insights into what Georgians do on a day-to-day basis in their own community.

The well-rounded, comprehensive programs in our communities provide opportunities in most of eight major classifications of programs. Perhaps not an exhaustive list, but alphabetically, they are: arts and crafts, dancing, dramatics, literary activities, music, nature and outing, social events, and sports and games.

There is a growing awareness among the local public recreation agencies of the cultural needs of people. An increasing number of them are seeking to determine what the needs and interests of people are in the broad area of the arts. Almost all public departments and private agencies offer a myriad of crafts programs, the objects of which have some functional value such as a piece of ceramics being used as an ash tray or leather work being used as house slippers. This is not art, but it should be noted that materials used in many of the craft processes can result in great art in the hands of an inspired creator.[12]

The number of talented persons has increased abundantly, and recreation agencies are now promoting programs in music, drama, ballet, drawing, painting, sculpture, etc. In the future they will be forced to provide the impetus for growing interest in this area. This will demand the use of proficient personnel from our public schools and colleges who might be retained for instructional purposes.

Mass communications media, particularly television, have narrowed the gap between the arts and the common man. Heretofore the arts were restricted to those who could afford them. People are now highly interested in drama, dance, instrumental ensembles, choral groups, painting, children's theater, and the like. With this mounting public interest, it is of importance that community relationships between recreation agencies and organizations concerned with the arts be developed. Closer working relationships among the Georgia Art Commission, the Art Department at the University of Georgia and the Georgia Recreation Commission are now a reality. The good rapport of these agencies should prove fruitful in developing further acceleration of activity in the arts.

Public schools have an important job in this regard also. A close examination of curricula is needed to determine if the academic approach to teaching these interests are, in fact, restricting their use to an educational setting. It seems an absolute necessity that education must apply skills and knowledge in music, art, woodworking, etc., for the enjoyment of later life.

In summary, during the remainder of this century people will continue to enjoy water sports. The strain this impact will have upon our camping, swimming, boating, fishing, and water skiing sites will result in a national crises. Likewise, the stress placed on local playgrounds, parks, and recreation centers for a wide range of activity, which will include an excessive number of adults, will become an acccepted major problem of federal, state, and local government. Increased emphasis from governmental sources and private enterprise will direct more funds to attempt to meet the needs.

The Many Facets of Recreation in Georgia

An array of agencies is currently involved in the promotion of recreation services in Georgia. These are not limited to governmental agencies but include a diversity of those supported by private funds.

Business and Industry

The desire of management for its employees to have better working conditions has resulted in recreation services being offered by industry. Only a limited number of industries in the state now provide such services on an extended basis as they did years ago, offering athletic leagues and playground programs on an extended basis. While this practice was generally accepted some 20-30 years ago, the approach of management today is that this type service should be rendered by the appropriate unit of local government. But numerous industries do provide activity on the job and own their own club house and water frontage for picnics, outings of other types, or weekend retreats.

Commercial Recreation

A sizable portion of the recreation needs and interests of people is satisfied by commercial interests. This group embraces such attractions as theaters, bowling alleys, restaurants and night clubs, billiard halls, roller skating rinks, vacation resorts, and amusement parks. Good examples of the last two mentioned are Callaway Gardens and Six Flags Over Georgia, respectively.

In 1968 Six Flags Over Georgia attracted approximately 1,600,000 visitors and the projection for 1969 exceeds 1,800,000. Mr. Spurgeon Richardson of their public relations department reports that they anticipate increasing crowds. It is felt that volume attendance at areas like this, Stone Mountain, and Callaway Gardens indicates that people are seeking quality recreation pursuits of this caliber.

Private Groups

In some of the rural communities of Georgia self-perpetuating groups have organized corporations for the purpose of providing recreation for their membership. Many have acquired low interest loans through the Farmers Home Administration to acquire and develop a recreation complex. They usually include such facilities as a swimming pool, club house, and nine-hole golf course. Some have developed dude ranches, and others offer good fishing opportunity. An increasing number of these projects has appeared on the Georgia scene in the last five years, and federal officials forecast more for the future on the assumption that people are seeking such outlets, and funds for these type projects are available.

Voluntary Agencies

The youth-serving agencies of the state play an extremely important part in community recreation. Although the expressed purpose of most of these agencies is not recreation *per se*, the majority of their offerings are recreation activities. Regardless of what the avowed purposes of the agencies are, it is still recreation that attracts their membership and participation.

Religious Organizations

Today the church's attitude toward recreation is far different from what it was years ago. The attitude is no longer one of hostility but of concern and active interest. Countless numbers of churches of all denominations participate to some degree in recreation activities. Numerous churches have their own recreation building and employ professionally trained leaders for the express purpose of directing activities for all age groups.

One prominent reason for the church's involvement in recreation is that local government has not been able to adequately satisfy all the needs that exist.

However, one must not be misled into thinking that the lack of public facilities is the only reason. Among the other reasons are to provide a place for church groups to enjoy fellowship together and provide an effective vehicle in the outreach program.

Schools

The role of the public school varies from one community to another; its involvement is largely dependent upon the attitude or appreciation of the local Board of Education. Generally speaking, public schools in the state make some facilities available for recreation but under the direction of another agency. It is probably safe to say that public schools do not now consider recreation as their responsibility. This subject will be examined in depth later.

Local Government

Until very recent years municipal government provided most of the organized community recreation for Georgia's communities. Since 1960 aprpoximately 36 full time departments have been established, 53 percent of the total of 70 now in existence. Most of the 70 departments have employed professionally trained directors and other staff to lead the effort.

County government, however, has begun to recognize its responsibility in this area and is addressing itself to the proposition of providing services. Some county governments supplement municipal government by appropriating funds to cities that offer recreation programs and by contracting with them for specific services. Others have established full-time, year-round programs of their own. With encouragement from the National Association of County Officials and with increasing demands placed upon them, county governments will probably increase the number of county parks and recreation services in the next 15 years. As a matter of fact, county involvement is the only means by which literally thousands of Georgians will be exposed to recreation experiences.

The State

A multiplicity of agencies are concerned with recreation in Georgia's state government structure. An analysis of these will not be included at length. It is felt that a very succinct description of them will connote adequately enough their functions and responsibilities. The overriding point to keep in mind is that recreation is complex, and it is not possible to centralize all of recreation into any one agency. There are many state agencies principally involved in recreation.

Georgia Recreation Commission provides advisory services upon request on recreation related matters, serving as a focal point for information and distribution. Major services include studies for local government and statewide surveys, publications, personnel assistance, face-to-face consultation, coordination of the establishment of recreation systems, and training.

Georgia Department of State Parks preserves and protects natural areas and develops their recreation potential when deemed appropriate.

Game and Fish Commission regulates boating and fishing on state waterways.

Georgia Historical Commission is responsible for the preservation and restoration of historical sites.

State Highway Department provides roadway parks and picnic sites for travelers.

Tourist Division of the Department of Industry and Trade operates Welcome Centers for purposes of information, direction, and relaxation for motorists entering the state.

North Georgia Mountains Commission acquires and develops recreation facilities in the North Georgia mountains for the express purpose of research and experimentation.

Institute of Community and Area Development at the University of Georgia offers a diversified expertise embracing many disciplines, including parks and recreation, provides planning and coordinative assistance. The Institute was responsible for the development of many facets of the State Outdoor Recreation Plan.

The State Planning Bureau prepares comprehensive long-range recommendations for the orderly growth of the state, including recommendations on long-range functional plans in such areas of state concern as transportation, water resources, economic development, and outdoor recreation. It is this agency that holds the direct responsibility for the development of the State Outdoor Comprehensive Recreation Plan.

State Health Department provides recreation therapy for the treatment of patients at all state hospitals.

Recreation Authorities: Jekyll Island, Acworth Lake Authority, Stone Mountain Memorial Association, and Lake Sidney Lanier Development Authority all have similar authority, usually to acquire and develop special recreation areas and facilities.

Georgia Art Commission advises the state on art and aesthetic matters, the design and visual appearance of state buildings and grounds, and the appearance of highways and parks as they contribute to the "visual image of Georgia." The intent of the agency is the promotion of the arts to large segments of the Georgia populace. It works very closely with state agencies and local agencies in promulgating this interest through the medium of recreation.

State Commission on Aging is authorized to plan and promote recreational facilities for the aging.

Department of Family and Children Services offers qualified recreation professionals to lead individual, dual and group activity of character building nature at state correctional institutions.

Federal

National Park areas, National Forest Preserves, and Corps of Engineers projects also play a vital role in Georgia's overall recreation resources. Some of these include Lake Sidney Lanier, Lake Allatoona, Chickamauga Battlefield, Kennesaw Mountain, Chattahoochee National Forest, Ocmulgee National Park, and Fort Pulaski. Another important aspect of federal involvement is those recreation services provided for the armed services.

Crisis in the Cities

When we look closely at the recreation and leisure problems in Georgia's largest metropolitan areas, it is not difficult to understand the implications of the report of the National Advisory Commission on Civil Disorders. It lists the lack of recreation opportunities as a major source of discontent among the inhabitants of the urban ghettos. In an inventory of these problems, the Commission found that adequate recreation opportunities ranked fifth in level of importance among the people themselves—of more importance, in fact, than the ineffectiveness of local political mechanisms or the inequitable administration of justice.[13]

The fact that an endless number of other demands are placed upon the recreation departments of these cities, demands from the middle and upper income groups as well, renders the challenge to meet the needs a virtual impossibility as things now stand. Additionally, private groups and agencies make constant demands upon recreation and park officials.

Jack C. Delius, General Manager of Atlanta Parks, states:

> The migrations of those from the economically deprived rural areas present gigantic problems. They come to the city expecting an exciting and full life, and when this does not come to pass they find themselves in even worse straits than before. Our department is expected to "pick up the pieces" and make life a rewarding experience. On the other hand, there is an influx of people from other large urban centers where they have been exposed to sophisticated

> recreation services. They bring pressure to bear for quality services such as ice skating rinks and large community centers. Incidentally, some of them are not even aware that they live outside the city limits. At any rate, we are caught in the middle, and I see no end in the foreseeable future to the mounting problems of this kind and the increasing parallel demands for recreation services.

Identical pressures are exerted upon the recreation departments in the other larger population centers of the state which are, in a sense, in an even more strained position since money appropriated for recreation is less than in Atlanta. We must remember when we think of the disadvantaged and the ghettos that this problem is not restricted to the larger cities like Atlanta, Macon, and Savannah; our smaller communities also have similar problems confronting them. They are not as plentiful but, proportionately, are just as severe and must be faced.

Perhaps it might be revealing if we analyze the expenditures for recreation and park services in the larger metropolitan cities. The City of Atlanta expends $9.11 per capita for recreation and parks. However, $1.63 of this is devoted to special facilities and capital improvements; $2.89 is committed to recreation services; while the rest, $4.59, is spent on park maintenance. In almost all other city departments in Georgia the larger portion of the budget is spent for recreation services.[14]

It is more revealing to view Atlanta from a metropolitan region standpoint. There are several other prominent political sub-divisions in Metro Atlanta providing recreation services. Those responsible for the largest portion of the population are Fulton County, Cobb County, and DeKalb County.

DeKalb, with almost 400,000 residents, expends only $1.99 per capita. Cobb County, although developing facilities and acquiring property at an accelerated pace, spends a meager $0.58 per capita on its overall operational program. Fulton County has recently purchased several tracts of land specified for recreation but currently has no organized effort for performing recreation services. No record as to how much Fulton County spends on the operation of limited services is readily available, but the estimate would be low in proportion to the needs. Unfortunately, Gwinnett County and Clayton County offer no organized recreation service. Only very mild attention to land acquisition for recreation is observed in most of the counties in the Metro Atlanta region.

Turning to the state's other metropolitan regions, let us look at their expenditures for this essential service. Augusta appropriates $2.56 per capita and Richmond County, embracing about the same population as the city, spends only $0.71 per capita. Columbus' per capita expenditure stands at $2.32, Macon's at $1.88, and Savannah's at $2.68. All told, the five largest metropolitan cities in the state average an annual expenditure of $3.70 per capita. When we compare this to the state average of $3.85, which is quite low, it reveals something of the recreation crisis we face in the urban areas.

In a recently conducted survey by the Georgia Recreation Commission of public recreation systems in the state, practically every department indicated that increased park acreage represented their most vital need. The National Recreation and Park Yearbook of 1966, published by the National Recreation and Park Association, reveals some interesting data about the lack of recreation land in Georgia's cities and counties. At that time the five larger cities measured up like this

City	Acreage Owned	Needed Acreage
Atlanta	2,500	9,072
Augusta	355	1,350
Columbus . . .	154	2,430
Macon	425	2,700
Savannah . . .	585	2,700

It is not at all encouraging to read a recent report in the newspaper that $3 million in Department of Housing and

Urban Development unused funds, available to counties on a matching basis for recreation, was turned back at a time when all Georgia communities are desperately short of recreation opportunity. This only tends to emphasize the fact that local government either does not have the matching funds or they are unwilling to commit them for this purpose. At any rate, it seems that local business interests, if properly informed and involved, could assist local government in acquiring this much needed land. This type of thing has been done to some extent already in the state.

Under any conditions land is scarce and as each day passes the costs become more prohibitive. This is one of the big problems facing all of Georgia's cities and counties.

If local government expects to purchase needed property for recreation and keep pace with increasing demands, it must find new sources of revenue. But there is little doubt that if people are to enjoy the recreation facilities which they seem to want and demand, they must be willing to pay additional taxes. Even this will not be sufficient. As stated earlier, funds must be sought from local citizens and business groups.

The State of Georgia offers very little relief for cities and counties in the acquisition and development of recreation. Several states provide assistance for this. The funds are derived from different sources. Florida taxes all sporting goods. Other states have placed a special tax on cigarettes. Others simply appropriate from the general fund a lump sum which is dispensed to local government for recreation development.

During the last session of the General Assembly a law was passed which authorizes the Governor to ask the General Assembly to appropriate money for aid to local government. It holds that it would make 25 percent of the cost of a project under the Land and Water Conservation Fund Act available to cities and counties, thus reducing the local share by one half. Currently local government must match federal funds dollar for dollar.

This legislation, however, is inadequate due to its permissive nature. If cities and counties ever receive financial assistance from the State, it will result from clear, concise, and purposeful legislation. Without this assistance from the State many of our people in Georgia's cities and counties will go lacking in recreation opportunity.

Local government must look for every possible means of acquiring property. Gifts provide one opportunity. The land for the two largest parks in Pittsburgh, Pennsylvania, containing 955 acres, was donated to the city. Acquisition of park and recreation land by transfer of title has taken on increased significance. Other devices used to acquire land include acquisition by tax liens; condemnation; joint development of land with schools and with public and private housing agencies; development in connection with parkways, expressways, and civic centers; and utilization of abandoned land fills. A paramount means of financing recreation acquisition and development is through revenue producing bonds. Bonds have proven quite successful in several cities and counties in other states but have never been used for recreation by local governing bodies in Georgia.

A public official better informed in terms of recreation would be to our advantage. Far too many do not recognize recreation as a principal component of local government. Its priority, although rising, is relatively low. A local governing body receives a grant for the development of a small park and feels that their recreation needs, present and future, are satisfied. Some do not see the necessity for supervision. Local officials represent a variety of disciplines. Many are business and professional people and graduates of our colleges and universities, where there should be more emphasis on the responsibility of local government in all its aspects, including recreation and park services.

Recreation interest is highest in and around the centers of greatest population. Some cities do not have the resources to generate a sound program alone. The citizens in the areas adjacent to the city limits, in many cases, are desirous of a program and are willing to be taxed for it. Chances are good that a referendum for a given city and a portion of the surrounding area would be well received by a majority of the people. Experience has proven that the farther from the center of population one gets, the less people are inclined to support referenda for recreation. Yet, the Constitution does not authorize a recreation district as described. The taxing power for recreation and parks, as authorized by the Constitution, is restricted to city and county lines. There is a need to modify the Constitution, page 73—paragraph three, to extend authority for recreation services in special districts that would cut through and beyond county lines.

The Georgia Recreation Enabling Law, a permissive bill, does extend authority for multi-county recreation services. However, this practice has not occurred in Georgia. It would seem a matter of practicality that county officials would make this arrangement effective, particularly in the poorer counties where quality service is not possible by one jurisdiction. Consolidation probably holds the ultimate answer in this regard because of existing feelings of suspicion and competitiveness among many communities in close proximity one with another. There is a need for this arrangement and the belief is that some developments of this nature will emerge between now and 1985.

Lifetime Sports Activities

The conditions surrounding the problem of lifetime sports in the state present some cause for genuine concern. The fact is that we do face a leisure oriented society in this state—particularly for the citizen of the immediate future. Yet, very little emphasis is placed on this kind of activity as compared to others.

Before going further, however, let us take a closer look at the term "lifetime sports." The term has two connotations: athletic games which may be enjoyed throughout life and healthful physical activities which can lead to a richer, more enoyable and longer life. However, let us go one step further in describing it in greater detail.

"A true lifetime sport," as stated by Charles B. Wilkinson, past president of the Lifetime Sports Foundation, "should meet the following criteria. It is a game which can be played and enjoyed throughout life. Both men and women can participate. No team organization is required. Facilities for play are readily available." Some of the lifetime sports are table tennis, golf, swimming, skiing, roller skating, ice skating, horseback riding, hiking, fishing, fencing, boating, bicycling, canoeing, archery, bowling, tennis, and badminton.

There is a tremendous need today for sports that require physical activity and bring enjoyment and satisfaction to the individual. Automation and "spectatoritis" contribute largely to this condition.

Automation continues to reduce the amount of physical activity required in daily living. This gives impetus to the problem of "spectatoritis" since, here again a minimum effort is required. This trend carries serious implications for the health of our citizenry and the preservation of our country. President John F. Kennedy said, "All of us must consider our own responsibility for the physical vigor of our children and of the young men and women of our community. We do not want our children to become a generation of spectators. Rather, we want each of them to become participants in vigorous life."

Let it be clearly understood that there are more Georgia young people who play the role of the observer in the grandstand than who perform as competitors on the field. There seems to be an increasing awareness of mental apathy toward physical fitness. This should be a challenge for both education and recreation.

The way to a vigorous and healthy life is through sports and other types of recreation. While it is difficult, impossible for some, to diet and do daily calisthenics, sports are challenging and fun and contain a built-in incentive. In brief, the individual and dual sports are easier to participate in, provided that one knows how and possesses some degree of skill. People like to do what they can do well.

Here is the heart of the problem. The two agencies which are in a position to contribute more in this respect, the public school and the recreation agency, in effect, leave a great deal to be desired.

With the main emphasis on varsity sports in Georgia schools, it is no wonder that so few young people develop basic carry-over skills. The varsity sports, normally including baseball, basketball, track, and football, reach only a small number of students; and oftentimes a boy participates in two, three, or all four sports. The average student who does not take part in varsity athletics must look to the physical education class for his development. Unfortunately, many of these classes are no more than a "recess" type period where the same team sports are conducted, with hardly any emphasis on carry-over activity. Several reasons contribute to this condition. Inadequate facilities and equipment and unskilled staff are problems. Numerous physical education teachers also serve as varsity coaches, and their knowledge and skills are very limited in terms of the intricacies of the carry-over sports and activities. To illustrate this point, there are over 700 activities outlined in the "Encyclopedia of Sports" but only a few are taught in our public schools. Only the most affluent school systems provide physical education training for elementary school children, at the critical age when young people are most receptive to learning and their attitudes most receptive.

Does not education have a utilitarian effect? This is generally agreed. One of the cardinal purposes of education is for leisure. Theoretically education for leisure should be included in the formal curricula of our schools in this state. But, since such a limited number of young adults have received adequate lifetime sports instruction in the school, the recreation agencies have the responsibility to provide this instruction. Some Georgia communities have recognized this fact. Most have not. But one very important factor is that no more than 70 communities in Georgia have full-time recreation departments. Therefore, there are many Georgians who are not exposed to the opportunities which can be provided by a public recreation agency.

Recreation and park departments attempt to fill this gap, but it is generally agreed that the majority of needs go unmet. The local recreation department is faced with increasing public demands, and yet their operating funds and facilities are limited. Only a few departments have adequate professional staffs, and some smaller communities employ only one professional to head the program while little emphasis is placed on other positions. All of this results in an attempt to service the largest number of citizens with a minimum of effort. The result, unfortunately, is a program generally directed at larger groups and including, for the most past, varsity type sports for the more proficient performer.

Again it must be emphasized that there is an urgent need for schools and recreation departments to work very closely together, to utilize staff to the best advantage and to include the talent of lay citizens who would volunteer, upon request, to teach individual and dual sports in both the recreation program and in the public schools. The community also must inventory and analyze its facilities and make the most effective use of existing buildings, courts, playfields, and other areas.

Attention is called to the Governor's Council on Physical Fitness which has been reactivated. Although this organization is widely representative of outstanding leadership of physical education and recreation expertise in the state, its effectiveness is somewhat impaired by a noticeable lack of funds and no professional staff. These deficiencies should be corrected. There are at least two alternatives. Establish this group on a permanent basis, perhaps calling it the Georgia Physical Fitness Commission and providing it with adequate funding and a full time staff, and place the responsibility for this effort under an existing agency such as the Georgia Recreation Commission or the Department of Education, employing needed staff, and utilizing the council as a citizen advisory group. A most effective arrangement would be that of maintaining the council for advice, with the Department of Education providing the professional staff to give impetus to the work. It is felt that a staff of at least two people initially would be needed on a full-time basis in order to develop a worthwhile program. A viable agency of this type could contribute immeasurably to the promotion of lifetime sports and "total fitness" in our schools and communities.

Educational Institutions And Recreation

If we assume that we are headed for a leisure oriented life it seems only practical and reasonable that we adequately prepare for it. Otherwise, we might find ourselves as ill equipped to cope with an abundance of free time as our forefathers were in adjusting to the machine age. Much preparation can be accomplished in our school systems.

The Public Schools

In some states the public schools are the focal point for public recreation. Although the State Recreation Enabling Law permits Georgia's schools to provide organized recreation, only a very small minority are involved and most of these in a minor, supportive role.

In most instances in Georgia the response of school authorities toward recreation has left much to be desired. And since school boards have many problems in meeting the primary functions which are dictated by the state, it would be unrealistic to assume that the provision of extensive recreation experiences could be more than a secondary function.

The practices in school based recreation in Georgia, and throughout the country, reflect the charge that school recreation is second rate. It is generally agreed that where these programs exist they never serve the community but restrict their efforts to the school population. Since education is the first line of defense in educational institutions, the recreation program is poorly financed. They are also often found to be poorly staffed.

Insufficient staffing reflects two specific aspects. Seldom are those who are responsible for school recreation activities trained in the field of recreation. Most often their training is in physical education and in some instances they possess no degree at all. The latter point reflects even more drastically the low priority placed on recreation by some school administrators. The staff employed for recreation is frequently utilized for coaching varsity athletic teams on a full time basis which leaves little time for recreation planning and organization. This is a weak approach for recreation.

It is true that some public schools in Georgia work closely with the recreation and park department. The majority of this harmonious relationship is characterized by joint use of facilities, usually resulting in the local recreation department's using the school gymnasium or an athletic field. Some school systems in the state are unalterably opposed to school facilities' being used for any purpose other than education per se. In some instances the school is dependent upon the recreation department for outdoor athletic facilities.

While some working relationships are being practiced, it would be less than realistic to say that it is a well founded principle of operation in most of our cities and counties. Often, reference is made to the continuing increase of school-community recreation programs but Richard Kraus, in a study conducted in 1962-63, noted that the reverse was true. The following percentages refer to school sponsorship as set forth by Dr. Kraus' study.[15]

1926	25.8 percent
1931	19.1 percent
1937	17.4 percent
1960	9.9 percent
1966	4.5 percent

It is not the belief of most recreation professionals in the state that public schools in Georgia will ever be sufficiently prepared to provide comprehensive recreation services. The needs of people are much too complex to expect any agency to adequately meet them as a secondary function. Recreation is sophisticated today. It is broad in scope. It includes not only young people but adults and specifically senior citizens. Recreation has extensive physical and mental overtones. It is a vehicle for social adjustment. It embraces a variety of activities too extensive to list, and the leisure related markets represent an economic factor of mass proportions.

Hal Flinn, senior recreation and park director, San Francisco Recreation and Park Department, has developed a set of questions which must be answered.[16]

1. Does the chosen authority assure recreation the prestige, resources, and support it deserves as a major and indispensable function of government?
2. Does the proposed authority have a broad philosophy, understanding, appreciation, and cognizance of recreation in its widest concept?
3. Is there a guarantee that funds for recreation will be protected and not diverted to other purposes?
4. Is there a provision for full cooperation and planning in the development of recreation servics?

While recreation professionals do not generally regard public schools as the proper authority for promulating recreation, it is appropriate to ask if the school has a part to play at all in this respect. The answer to this question is a definite and positive "yes." As a matter of fact, this disunity between schools and governmental supported recreation agencies presents what is usually regarded as an undeniable waste of public funds.

During a time when the tax dollar is being anxiously sought by every local agency and when inflationary costs reduce its value, it seems unrealistic and unfair to those whose money operates services not to do everything possible to increase its net value. It might be true that public schools need and do receive the bulk of the tax dollar. But it is not economically sound to have expensive school buildings open less than 30 percent of the time.

As communities continue to grow and the tax dollar diminishes in value it is expected that more emphasis will be placed upon the school as the center of community life. It might very well have a community health clinic, a public library, a theater, and other recreation facilities. If this emerges as the case in Georgia, some changes in attitude must take place. It is expected that, although slowly, attitudes will change.

There will be a few far thinking school boards, local elected officials, and recreation-park boards who will set the pace as some have done in Florida, Maryland, and other states. These will focus their attention upon the school-community park concept of facility planning and design so as to have school plants designed with separate units for community recreation. The design will minimize the interference with the educational programs during the school day. Those areas which lend themselves more readily to recreation such as auditoriums, gymnasiums, cafeterias, shops, and music rooms will be so strategically located that entrance can be achieved without entering the academic areas.

Coordinated effort will not stop at this point. Further working relationships between the school and the community will result in sophisticated school-community park complexes.

In some cases the school board will lease a part of the school acreage to the recreation department or board who will develop, with the school board's approval, a wide range of recreation facilities including play apparatus, swimming pool, community center, playfields, or whatever might be deemed appropriate. The recreation department will have the maintenance function of the entire area excluding the school building itself. The school board also gains in that they have access, during school hours, to the recreation facilities which are not available under existing conditions.

This arrangement will also work in reverse. On occasion the recreation department will lease a corner lot of a park site to the school board for the constrction of a school. This not only enables the schools to be placed in strategic locations in terms of accessibility but precludes the development and maintenance of recreation areas by the board of education.

Therefore it is essential that schools and recreation departments develop a healthy, cooperative relationship. If this is done it should result in the achievement of maximum benefits to all at a reduced cost.

There are also other aspects of the public school's place in recreation and leisure. Although this general thought was explored to some extent under "Lifetime Sports," it is timely to mention it now. The emphasis in our secondary schools has been largely and still is on organized, competitive sports such as track, baseball, etc. The number of persons who can take an active part in these as age increases is quite limited. Much more emphasis should be placed on the provision of education for all students in a variety of outdoor activities in which they can engage throughout life. Examples are swimming, boating, sailing, fishing, and camping.

The role of physical education will be modified within the next few years, and its curriculum will embrace many activities not considered earlier a part of its responsibility.

Physical education should do more than help students to safely and skillfully participate in such activities. Together with other aspects of outdoor education, it should teach them the importance of adherence to a code of personal behavior that includes scrupulous care with fire, methods of disposing of litter, avoidance of vandalism of all kinds, compliance with rules and regulations for the use of both public and private property, concern for the safety and comfort of others, and respect for the environment in which we live.

This implies that there is a need for some kinds of environmental education. However, it is felt that appropriate curriculum revision in elementary school might be more productive in teaching young people not only that outdoor recreation activity provides enjoyment but that it enhances the mental, aesthetic, and spiritual growth of the person. The curriculum should also provide interpretation about the place of recreation in one's life and dispel the belief that play is a way to waste time. To accomplish this some schools offer extensive school camping programs. This is something we can expect when the 12 month school year is established statewide, although it should already be in effect.

Recruitment of Leadership

A problem of long standing is one of recruitment. Not too frequently does the recreation field get good students by design. A large number of them in Georgia change over from other disciplines after they have graduated. There is an expressed need for an intensive recruitment campaign to attract high school and beginning college students. High school is really not early enough for today's young people to begin thinking about a career goal. If interest and enthusiasm are developed early in a student's school years, the possibility of his entering the field is increased.

While realizing that recruitment is a prime function and responsibility of the professional field itself, one can still see that public schools can contribute fruitfully to this cause. First, professional recreation personnel should be encouraged to become involved in high school and college career days and present a discussion of the benefits and challenges of the recreation and parks field as a career. Secondly, distrct conferences should be developed to involve key recreation practitioners and educators with high school and college guidance.

A Recommendation

Probably the most meaningful step for overall recreation development where education is concerned would be for the Georgia Department of Education to appoint a Special Task Force for the purpose of developing an articulated curriculum in the arts of leisure, encompassing music, art, physical education, recreation, and all those areas that contribute to the total dimension of leisure.

Higher Education

We cannot discuss the role of higher education in recreation without considering the manpower dilemma we face and the rapidly changing role of recreation. Recreation at the community level has been thrust into a new role by dual pressures. On the one hand pressure comes from the poor and the activists who are demanding more and better recreation facilities, services, and programs. On the other hand pressure is exerted by the local authorities who attempt to use recreation as a communications link with the disadvantaged, involving them in a portion of the ongoing program. By the same token, personnel demands are far greater than the present supply of graduates from our colleges and universities.

Although there is little information available on the actual demand for recreation and park personnel in the state, it is held by most knowledgeable people in the field that there is a definite lack of such trained people. In the very near future the findings of a Manpower Study for Recreation, Parks, Conservation, and Youth Serving Agencies will be made available by the Georgia Recreation Commission.

The Georgia Recreation Commission designates one staff member to aid in personnel placement. Numerous requests for personnel placement assistance are received each month, and the Commission has encountered much difficulty in locating qualified leaders for vacant positions. It is not unusual to see persons from other states appointed to some of the more responsible positions. As a matter of fact, several jobs have been filled with men from Mississippi.

Only two schools in Georgia offer a major course of study in recreation. They are the University of Georgia and Georgia Southern College. The public recreation departments in the state have personnel staffing needs that can easily utilize all of the graduates of these four year curriculums.

In addition to city and county needs, state governmental agencies such as the State Planning Bureau, the Georgia Recreation Commission, the State Parks Department, and the State Game and Fish Commission are constantly expanding their personnel and compounding the problem. Area Planning and Development Commissions are beginning to employ Resource Planners with major emphasis of work on the recreational development aspect. Certainly each Commission should have a Recreation Resource Planner on its staff.[17] In addition, federal agencies in Georgia have now begun to use recreation leadership in many phases of their work.

The National Recreation and Park

Association conducted a manpower survey in 1967. It revealed that the gulf between manpower and supply demand in the years ahead cannot be overcome by current and anticipated training methods or increases in the number of higher education curricula.

The study showed that 183 institutions now provide park and recreation curricula and that 160 others expect to initiate curricula by 1980. Since Georgia, as it was indicated earlier, has only two such schools, let us hope that several of the additional 160 will be located in this state. This will have to be done if we are to adequately meet the needs in Georgia as they will manifest themselves in the ensuing years.

Educational institutions have a clear cut responsibility to help alleviate this critical shortage. Hopefully, their efforts in the future will result in various improvements in Georgia's recreation program.

Additional four year curricula for recreation and parks—There is an obvious need for more institutions that offer recreation degrees. Although well qualified recreation instructors become increasingly difficult to locate, the needs in Georgia make it incumbent upon our colleges to provide qualified leadership to meet the demands.

The variety and depth of the personnel demands will not be met by our dependence upon a physical education centered recreation curriculum. This is not to say that the recreation curricula now located in a Division for Health, Physical Education and Recreation are not providing worthwhile leadership. But it is important that we clearly understand the limitations we place upon the recreation curriculum when it is heavily oriented with games and sports or athletics. It seems only natural to assume that this is the kind of strong orientation our leadership will have. Sports are a part of recreation, but only a part.

We are really discussing two different disciplines. One provides training for the physical. The other, recreation, theoretically trains leaders to direct leisure pursuits in a variety of settings. These leaders are not only to be taught the philosophy and principles of recreation and leisure, but the techniques of organization, administration, and management.

It will be important that those institutions interested in launching a recreation curriculum investigate thoroughly its resources—both physical and human—before placing the curriculum under any one of the existing departments. Hopefully many of the new curricula established in the future will be organized in a separate department or division, well staffed with instructors whose backgrounds are in recreation and whose experiences represent a broad overview of recreation interests such as therapy, community, planning, resource management, etc. In this way students will not only be exposed to sound recreation philosophy but will have the opportunity to specialize in specific areas.

An increase in the number of schools offering graduate work in the recreation and park fields—Georgia Southern College, the first to initiate a professional degree in recreation and administration in the state, does not offer any graduate work in recreation. This should be corrected.

Several junior college programs for the preparation of persons to work at the program level—It is agreed that many of the jobs in this field now held by college graduates can be effectively done by someone with a two-year degree or equivalent.

An increased number of financial assistance programs to encourage graduate work in the field and to attract and assist undergraduates—This need is paramount if we are to attract and maintain quality students. Many students with potential and desire to continue their education are hindered by inadequate funds to meet tuition fees and other financial obligations. Those schools offering recreation degrees should make available a listing of all available scholarship resources, fellowships, internships, and grants which students might use to obtain assistance for education.

The establishment of a School of Leisure Sciences at the University of Georgia—The purpose of the organization would be to conduct basic and applied research in the broad field of recreation, parks, and conservation. The staff would also be responsible for the professional preparation curriculum.

There is a decided need to amass a large pool of research to provide recreation and parks with a broad body of knowledge and insight which could assist considerably in program planning services and in bringing about needed changes in the field. It might be this department's function to extract pertinent findings from existing research efforts and disseminate them to people in the field to assure the best practices possible.

The establishment of a recreation curriculum, both graduate and undergradate, at Georgia State College in which major focus would be upon the social aspects of recreaation in the inner city—Georgia State University is strategically located for this role, and students would have a unique opportunity for practical field work with several public and private agencies in the Metro Atlanta region. It goes without saying that the demand for graduate work in this field is extremely high in the Metro Atlanta area where absolutely no opportunities for the extension of education in this field now exist.

Opportunities for close working relationships between Georgia State and the School of Leisure Sciences in Athens would be immeasurable. One extremely important subject which might be explored jointly would be the social interaction of recreation with the disadvantaged.

John Henry Davis received his Master's Degree from Teachers College of Columbia University in June 1957. In July of that year he became superintendent of recreation for Dalton. While in this position he received the "Distinguished Service Award" from the Dalton Jaycees. In 1962 he served as president of the Georgia Recreation Society and received the "Professional Award" from this organization in 1963. During this year he began serving as executive director of the newly formed Georgia Recreation Commission, his current position. In 1965 he was vice chairman of the Southeastern Advisory Committee of the National Recreation and Park Association and is listed in the 1965 issue of "Who's Who in American Education." Mr. Davis is currently serving as president of the American Park and Recreation Society. He is also chairman of the State Board of Regents' advisory committee established for the purpose of studying the feasibility of initiating a two year recreation curriculum at Abraham Baldwin College.

Footnotes

1. Brightbill, Charles, *The Challenge of Leisure*, p. 3.
2. *Ibid*. p. 4.
3. Meyer and Brightbill, *Recreation Administration*, p. 1.
4. *Ibid*., p. 6.
5. Danielsen, Albert L. and Floyd, Charles F., "Socio-Economic Characteristics of Population to 1980," *Georgia Statewide Comprehensive Outdoor Recreation Plan*, (Outdoor Research Study No. 2, p. 3.
6. *Ibid*., pp. 38-39.
7. *Ibid*., p. 121.
8. *Ibid*.
9. Outdoor Recreation Resources Review Commission, *Outdoor Recreation for America*, (Jan. 1962), pp. 173-182.
10. Department of the Interior, Bureau of Outdoor Recreation, *Outdoor Recreation Trends*, (1967).
11. *Ibid*.
12. North Carolina Recreation Commission, *Recreation and the Arts*, (June 1964), pp. 7-10.
13. *Citizens Advisory Committee on Recreation and Natural Beauty*, (1968), pp. 25-26.
14. Georgia Recreation Commission and the Georgia Municipal Association, *Public Recreation in Georgia*, p. 6.
15. Kraus, Richard, "Which Way School Recreation?" (*Journal of Health, Physical Education, and Recreation*, (Vol. 26), pp. 25-26, 67-69.
16. *Journal of Health, Physical Education, and Recreation*, "School Administration of Municipal Recreation," (Vol. 34), pp. 7, 43-44.
17. Champlin and Murphy, "Outdoor Recreation Research and Education," *Georgia Statewide Comprehensive Outdoor Recreation Plan*, (1967), p. 92.

critique:

Leisure and Recreation in Georgia

By James R. Champlin,
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THE author of this critique on "Leisure and Recreation in Georgia," a position paper developed by John H. Davis, executive director, Georgia Recreation Commission, concurs with *all* of the conclusions drawn by author Davis with the possible exception of one item that will be expounded upon later in this report.

The author of "Leisure and Recreation in Georgia" correctly points out that one of the biggest problems at the present time is the lack of comprehension, by individual citizens, of the terms "leisure" and "recreation"; the values and benefits of recreation to the individual in the physical, mental, psychological and social realms; the goals of an organized, publicly sponsored recreation program; and the recreation illiteracy that is prevalent throughout the state and nation.

The author then explores the ramifications of the relationship between education and recreation and the goals that should be sought by the educational institution in respect to its responsibility in recreation.

Education as an institution has long embraced the cardinal principle of ". . . education for the wise and worthy use of leisure time"; however, the institution has fallen far short of achieving this goal. Undoubtedly, one of the major goals that the education and recreation disciplines should strive for is the development of recreation literacy within our society.

If the quality of our societal living is to be maintained at its present level and hopefully to improve in the years ahead, then we must have recreationally literate people. The term *recreation literacy* as used here means that "the individual resident has attained a certain desirable minimum level of recreation knowledge and recreation skills, so that he can make a selective use of his leisure time and participate in activities that are re-creative and beneficial to his physical, mental, emotional, and spiritual health."

Improvement in the educational curriculum to achieve a specific goal only happens by the initiation of a concerted effort. In order to achieve recreation literacy the Georgia Board of Education must take the lead with their local counterparts in placing a top priority on this goal.

Author Davis has recommended the appointment of a "Special Task Force for the purpose of developing an articulated curriculum in the arts of leisure . . ." and this perhaps may be the finest accomplishment to be achieved by the Commission on Educational Goals.

The position paper also places great stress on the need for an enlightened professional leadership in the field of recreation and is correct from the standpoint of assessment of the problem. Recommendations for the establishment of additional recreation curricula are well taken and should be pursued.

The suggestion of a "School of Leisure Sciences" represents a new and unique approach to the study of leisure and recreation. It should be pointed out, however, that perhaps what is needed is greater flexibility and more imaginative design in altering the organizational structure within existing colleges and universities.

There are approximately 15 departments, schools or other administrative units within the University of Georgia that have a direct relationship to recreation education—the professional curriculum.

Within the context of the limited space of the position paper, author Davis has done an excellent job and a comprehensive job of analyzing agencies with responsibility for recreation services and of defining the problems in recreation that face educational leaders and public officials in the state of Georgia.

In the position paper the author makes a case for the provision of a State Grant-In-Aid Program to help local communities in meeting recreational needs. This alternative is one method of helping to alleviate the problem and is a logical approach under present circumstances where state and federal aid programs have become so prevalent.

The author of this critique, however, would like to point out that wherever citizens of any given community turn to state and federal aid programs, they are in a very real sense abrogating self-responsibility. With adequate financial resources, a community should be able to meet its own needs and provide the service desired by its residents.

There is a general attitude, on the part of citizens throughout the state, of "leave it to the state to do." Few people seem to realize that instead of being cheaper or free, this approach actually costs the taxpayer more because of the need for overhead administrative costs. An example of this is the desire by the local citizens to have a state park in each county of the state. Instead of 159 county state parks, perhaps what is needed are 159 county parks.

The one topical subject that does not seem to be treated in sufficient depth in the position paper is the subject of the Conservation Movement. Although it seems to have come late to the state of Georgia, the Conservation Movement is in full swing.

During the past six years, and particularly the last two years, organized support for the preservation and proper utilization of our natural resources has grown remarkedly. Membership in conservation groups has swelled, and with an enlightened leadership, progress is being made in shaping the future of the great state of Georgia.

These conservation groups, whether they are called recreation group, conservation group, ecologists or nature lovers, are beginning to wield a strong potential for political influence. The Georgia Recreation and Park Society, The Georgia Conservancy, and The Georgia Outdoor Writers Association are typical of the groups who are going to have a strong influence on the development of state policy from this time forth.

Due to this factor it becomes even more important to place greater stress on environmental education as a part of the school program from kindergarten through adult education. The state has created the Unicoi Project—The North Georgia Mountains Outdoor Recreation Experiment Station which should serve as a focal point and resource for a program of environmental education.

The charge given to the Unicoi Experiment Station by the State Legislature is to develop a program of outdoor recreation research and experimentation which will provide a great stimulus to the conservation movement throughout the state.

In conclusion, the position paper on "Leisure and Recreation in Georgia" provides a concise statement for deliberations by the Commission on Educational Goals and embodies several concepts which should be embraced and adopted as guidelines for program direction.

critique:

Leisure and Recreation in Georgia

By Hugh B. Masters, Former Director, Georgia Center for Continuing Education, and Pauline Masters, Consultant in Outdoor Recreation, Helen, Georgia

THE author of *Leisure and Recreation in Georgia* experienced difficulty, as so many have in the past and will continue to have, in defining leisure and recreation. We are in agreement with his definition but would like to make a point or two further toward defining the term.

True leisure offers an individual a freedom of choice to examine his values and to innovate, create, research, explore, and discover better ways of achieving a richer and fuller life for himself without exploiting his fellow man. It cannot be said, therefore, that the individual who has free time, but who is merely looking for something to kill time, has true leisure; neither does the person worn out from the pursuit of leisure or worn out from work. We think that true leisure implies a positive, uplifting of human values.

With regard to the definition of recreation, we would like to make the point that, in addition to the author's statements, some people get their recreation from their chosen professions or vocations. This is true of outdoor recreation leaders and individuals engaged in many phases of the performing arts. These individuals are free and their work may be a means of recreation as well as a means of livelihood.

We agree that there is widespread confusion about what recreation is—its purposes and its value—but we regard it as a basic necessity for all human beings. We know of no society, primitive or civilized, that has not or does not engage in some form of recreation. Unfortunately, we have denied recreation pursuits to many people— to some on the basis of age and to some on the basis of sex or social status. Also, we have developed a series of legal restrictions that deny the public the use of many forms of recreation. Interpretation or definition is important as a beginning point, but we think of greater concern is recognition of recreation as a vital part of human life and the necessity for its continuance throughout life.

The key to recognition, we believe, is education starting from a very early age and continuing throughout life. The education process will require the support of the home, the community-centered school, the church, the volunteer agencies, and the financial support of the governmental agencies.

It is the obligation of the community-centered school and the recreation forces to be concerned with the development of some of the recreational resources of the area. It has been observed that those who contribute their own efforts to the program or facilities, even in a minor way, have a greater respect for the facilities. Involvement appears to be a greater deterrent to pollution, littering, and vandalism than signs saying, "This is your park; keep it clean." We agree with the author in his assessment of the role of the public school and the recreation agency. We are committed to the notion that these two agencies must find ways of working with each other for the best interest of the public and still maintain the independence of each.

Higher education will have a major responsibility for research, experimentation, demonstration, service, and preparation for leadership in recreation.

In our desire to further the cause of recreation and to extend and improve its services for people, we sometimes forget that recreation occurs in areas that are susceptible to pollution, littering, vandalism, and, at the worst, crime. These recreation areas are viable projects for basic research and experimental efforts that need the most careful study and the best researchers we can provide. Results from research and experimentation by specialists in higher education will become resources upon which to draw for solution of specific problems.

We believe that the preparation for leadership in recreation should be withdrawn from the physical education forces and should be heavily involved in the behavioral sciences. We believe that the training program should be interdisciplinary in nature.

By 1985 we think the pattern of using part-time help in a leadership capacity in recreation in Georgia and the nation will no longer be the practice. Professional personnel will be employed on a twelve months' basis. Their salaries will need to be competitive with other professionals of equal training and experience in order to attract recreation leadership talent to meet the needs of the people of Georgia.

The ever increasing role of government agencies—federal, state, county, and local—in the field of recreation makes continuing education imperative for agency members. For example, many elected officials have terminated their education and have the notion that education is for the young. Some of them managed to "get through" school without learning to study, to analyze, and to use data to make judgments based on evidence. In the future, opportunities for elected officials to be deliberate and systematic in the study of recreation needs and problems will be of utmost importance.

It has long been an accepted practice to require many professional people to take in-service training or refresher courses. We recommend that similar opportunities be made available to government officials engaging in policy making. This educational experience or these opportunities should precede the period of service and continue throughout their service because public policy involves the general public and oftentimes requires a policy maker to deal with emotional problems that are highly complex. This educational opportunity would tend to make sure that policy makers would take a new and, hopefully, a more understanding look at the problems of the public seeking recreation in the last part of the 20th Century. We can no longer trust policy makers to rely solely on their past experience or on what little they may read from the press from time to time. We believe that systematic, continuing study experiences are necessary for government agency members.

A problem which deserves special attention now before it becomes more difficult is coordination of the efforts of many agencies—public, private, and commercial—toward quality programs and facilities for recreation.

With a sincere and earnest desire on the part of many agencies to provide programs in this field, there are still major gaps of service that go unnoticed, and there is much confusion and duplication. Each of the agencies is competing with others at many points for financial support and for the attention of the recreationists. The list of agencies, including the government, the associations, the societies, and commercial ventures, runs into the thousands. The present practices of the agencies naturally result in duplication and confusion. These practices have provided, as in our state, programs of "do it yourself" for amateurs who are not capable of opening a "do it yourself" kit.

We are in general agreement with the statistics cited and the philosophy set forth in the author's paper. We do feel, however, not a strong enough plea was made for a greater variety of programs or for innovative programs in recreation, for all ages and both sexes on a year-round basis. He mentions the omission of nature interpretive centers, but we believe greater emphasis should be placed on the growth of nature centers in our state and in the nation. Many states have gone far beyond what Georgia has done about nature centers, outdoor education, and recreation. Before 1985 it is our responsibility to achieve average development of program offerings in these areas.

In cooperation with other institutions, our Department of State Parks should develop nature centers and should furnish a naturalist to help the public to make better use of the facilities. We believe these nature center programs would enable public school students and the general public to gain insights from and appreciation of their relationship to the total ecology.

The author indicates some concern for the aging and their needs for recreation programs. We believe, also, that specific programs should be developed for the aging. It is an established fact that many older people have a desire to return to places in rural America that they know. Therefore, camping and trailer life offers a rich experience for these people. Yet, when they reach our state parks, there is relatively little for them to do. For instance, swimming and boating, which are so popular with younger people, are not very important activities for the aging. Also, many trails are made for young people and are designed by engineers or park superintendents who are concerned about the terrain of the area rather than the program that would be practical for older people. Funds could be obtained, in many cases, for experimental programs from federal sources to assist the aging in finding a richer and more exciting kind of recreational pursuit in the use of our public areas.

The federal government's interest, as demonstrated by various acts to support programs on aging, and the fact that there are more than 20 million Americans over 65 years of age offer strong support to the contention that specific programs in recreation for the aging are needed.

Still another program at the opposite end of the age scale would be development of "Tot Lots" in neighborhoods. Assistance from state and federal groups such as Head Start might be obtained, and high school students could be utilized for these programs. The programs would provide an experience in citizenship similar to internships in education, medicine, and many other professions which have been found to be rewarding. Such an experience of developing "Tot Lots" by older youth under guidance could develop preparation for parenthood and citizenship and give young people a stake in this country through their own efforts.

With the help of Title III, Elementary and Secondary Education Act, schools can and will extend their positions in the areas of outdoor education, recreation, and conservation by 1985. We believe school camping programs to be one of the best means of fusing these three interests into an innovative, satisfying program for children.

The school camping program in Georgia is exceptionally weak. The present program is used primarily to help teachers to sugarcoat a curriculum that most children find difficult to accept. This condition is a discredit to the camping movement. We are familiar with good school camping programs developed with the assistance of Title III funds that are realizing some of the potential of such programs to the community. They have been developed on the basis of realistic concepts of conservation and better use of natural resources. Under competent leadership and involving participants as co-performers in the act of preservation of facilities and the site, we offer another way to solve problems we have utterly failed to solve in the past. Some of these problems — littering, vandalism, pollution—we know all too well.

The author has stated well the values of recreation to man and the factors affecting the demand for recreation in Georgia as well as in the nation. He has furnished a defensible analysis of recreation activities pursued in the state. He has provided a full treatment of the agencies that presently attempt to supply the recreation demands of the people of the state. He also makes a strong statement on the necessity for additional land or space for increased developments to meet demands.

We are in accord with the author's strong statements on the necessity for more land. We believe, however, that a comprehensive recreation program should be written for any recreation project prior to the decision as to the location of the site. The amount of land necessary for a development and its location cannot be determined proir to a detailed, written program in terms of the needs of the people of Georgia. We, too, believe that orderly planning is necessary to preclude duplication and to forecast the areas of most severe need.

The author made reference to Georgia laws affecting multi-county recreation and their inadequacy. He suggests stronger laws for better planning and more cooperation. Before these desired conditions become a reality, we believe that the people of the state must recognize that recreation is a vital part of human life and that it must continue throughout life. We believe, also, that they must become aware of the fact that recreation is big business.

The Arts in Georgia

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THERE is abundant evidence that our educational system up to the present time has overwhelmingly denied to most people any vital use of their senses. Herbert Read in one of his lectures on "The Social Aspects of Art in an Industrial Age" (and included in his book *The Grass Roots of Art*) pinpoints this lack when he says *"Our particular trouble, in this 'air-conditioned nightmare' which we call a civilization, is that we have lost the very notion of cultivating the senses, until butter-fingered and tongue-tied, half-blind and deaf to all nervous vibrations, we stumble through life unaware of its most appealing aspects, lost to its intensest joys and communications."*

Wholeheartedly I believe in this need to develop the senses which are the springboards of all the Arts, and in the need to include the proper channels for this development in the earliest schooling onward. This would help to insure the natural growth of creativity in children, who are all inherently creative, and to provide greater fulfillment in their lives and in the life of the community. The Arts are primary teachers of communications among human beings.

I hasten to point out that I write this paper as an artist (painter) and not as an educator, although I have spent twenty years in the classroom attempting to teach art, and in so doing learned many hard lessons and gained much valuable information. As to the processes of imagination and creativity in individuals, I will rely heavily on the experiences I have had personally in the visual arts since early childhood as justification for the opinions I may set forth here.

It seems to me that we are now living in a time of non-verbal communications, and the question that first arises in my mind is whether in any sphere of activity, and more especially in the sphere of education, we can afford to neglect those systems of non-verbal signs—known more familiarly as the plastic arts — which constitute modes of communication as essential as the modes of communication embodied in vocal (spoken) language.

We are, after all, living in the television generation. From birth to high school graduation, today's young people spend an average of 15,000 hours before television sets, and they spend just over 12,000 hours (1,000 hours each year) in school. It is obvious to me that the hours spent in school do not begin to compete with the dominant array of prejudice, dishonesty, war, violence, and wasting of the human spirit that is provided by newspapers, magazines, movies, and television. It has been observed that there is an alarming increase in the number of students who are simply not interested in our English courses—that is to say, reading and writing and the way we teach them. The rejection of this means of communication is not intellectual as far as the students are concerned, but more simply, they receive much better informaion from non-verbal TV and films—almost instant information which is relevant to the day and time in which they live—and it is built in because it is what they have grown up with.

Considering the ominous dropout rate in our educational institutions and our apparent inability to cope with the student as an individual human being, I feel we must answer in the negative the question now being asked by many educators, "Are we serving even 50 per cent of our students with any adequacy?"

Educator John Holt in his penetrating book *How Children Fail* says *"School tends to be a dishonest as well as a nervous place. We adults are not often honest with children, least of all in school. We tell them, not what we think, but what we feel they ought to think; or what other people feel or tell us they ought to think. Pressure groups find it easy to weed out of our classrooms, texts, and libraries whatever facts, truths, and ideas they happen to find unpleasant or inconvenient. And we are not even as truthful with children as we could safely be, as the parents, politicians, and pressure groups would let us be. Even in the most non-controversial areas our teaching, the books, and the textbooks we give children present a dishonest and distorted picture of the world."*

It is often being said that there is a current pretense in schools that all is fine and gentle—that disagreements can be solved rationally, that evil and violence are pathological exceptions to our normal lives. Surely we know by now that this pretense convinces no one — not even teachers. There is a life in the streets of our urban centers and in suburbia and in our rural areas that displays our complex fantasies of hate and anger, as well as a good and simple life. Our schools fail because they fail to recognize conflict and therefore cannot help anyone to deal with it. Art is and will be irrelevant in the schools so long as this pretense is maintained that Dick and Jane are more relevant than Bat Man and Viet Nam.

Harold Taylor, former President of Sarah Lawrence College and President of American Ballet Theatre Foundation, offers: *"For too long a time we have defined education as taking subjects. A mixture of Puritanism and over-organization has made us think of education as hard work in a school or some other institution—work which contrasts with play, which is to be carried on outside school, and having nothing to do with education, the Arts being frivolous, leisure time, non-income producing, belonging with play and entertainment, and are therefore not to be taught in the schools except as an extracurricular, or frill."*

Taylor continues with the fact that education is itself an art, full of delight, whose purpose is to produce general joy and a sensitivity to everything that is happening. Everything educates —

springtime, hard luck, love, hate, mathematics, poverty, religion, women, marriage, and so on. And the formal part of education — the part done inside schools and colleges—is merely a section of particular studies that, for the most part, could be carried on just as easily and more effectively outside of the institutions. The question of what goes on inside and how it goes on is an arbitrary decision made by those who decide what education is.

Today as we look at the many evidences of man's achievements and adventures on this planet and the myriad ways in which they are told, it is surely noticeable that too often they are conveyed in terms of his technological advances. That is, they are told in terms of his assumption of power over his physical environment, and all too often it is assumed that any other achievements are mere consequences of his success in this great technological enterprise. The story is also told in terms sometimes of his beliefs, ideals, convictions, and standards of values. Sometimes, though much less often, it is also told in terms of his creative imagination as revealed in his art. The point I wish to make is that the story of man's art has been manifest in the earliest evidence we have of man's existence from the time he first found sticks and stones and fashioned his first crude tools and weapons from them. We see that he had hardly invented these instruments before he began to ornament them. We can also see that he made skillful and beautiful drawings on the walls of his cave. These pictures we know were not just something nice to look at, but were used as a kind of magic against those powers of nature that he could not measure or control.

And so, in spite of how little we know even today about those strange beginnings of man, it is easy enough for us to see that he was concerned with something more than naked utility. Therefore, he invented not only art but also ritual and religion as the necessary accompaniments of his various practical techniques. So he became man the thinker —and man the dreamer—almost as soon as he became man the maker.

We know that to be human has always meant to be concerned to some extent with a complex of activities that involve both those directed towards survival and physical comfort and those that furnish an occupation for mind and spirit. The impulse to represent or invent through the medium of words or lines is as natural and spontaneous as any other impulse toward the fulfillment of inherent capacities. It manifests itself early in the childhood of the individual and early in the childhood of the race. To inhibit it, or frustrate it, is to risk anxiety and discontent—and that in my view is predominantly the condition of our educational system today.

It cannot be denied that our system of education so far has given the wrong meaning to work and play by keeping them separate activities. We seem always to follow the idea that first we work and then we play. So often we push the idea of work just for the sake of work with no meaningful target for which the work is being done. Play is most often taken to be a meaningless activity, mere mechanical entertainment, with the result that it is forgotten by tomorrow. I remember a little girl in our neighborhood who always used to say, "I help my mother all I can—and then I go and play."

In another area, how often is play in any sport really rewarding without the hard work of learning the skill necessary to play effectively? People in the recreation field recognize that the play in their area of endeavor is not just sport. It is play that has a meaningful reward in individual character growth as well as physical development.

We should reverse the order of work then play. We can gear play to be rewarding and to create curiosity—then make use of that. The individual interests and curiosities that develop in play can be guided into marvelously educative experiences, and then work can become a natural part of accomplishment. Work is not drugery when the target is rewarding. The discipline to do the work will easily be self-imposed when the teacher can encourage and guide the student through meaningful play.

Plato long ago observed, *"You must train your children to their studies in a playful manner and without any air of constraint with the further object of discerning more readily the natural bent of their respective characters."* Further along this line, Herbert Read closes his book entitled *Education through Art* with *"Every man is a special kind of artist, and in his originating activity, his play or work (and in a natural society, we have held, there should be no distinction between the psychology of work and of play), he is doing more than express himself: he is manifesting the form which our common life should take, in its unfolding."*

I contend that our biggest trouble is that most of our schools and colleges seldom allow the student a personal and individual involvement. Surely we ought to be prepared by now to admit that our education today too largely consists of tidy little packages of supervised learning out of textbooks, of lectures, and outlines, and other obstructions that get in the way of genuine throught and insight. Answers are too frequently given before the student has a chance even to ask questions. Is it not true that administrative convenience seems to deny the genuine pursuit of knowledge, the instilling of a love for learning by way of the creative imagination? Albert Einstein noted, "Imagination is more important than knowledge, for knowledge is limited whereas imagination embraces the entire world, stimulating progress, giving birth to evolution."

Of course, it is only just to mention that there are educational programs in a few schools and colleges that are organized for personal involvement and for confrontation with the issues and ideas, but they are an infinitesimal minority and we have barely begun to perceive the valuable benefits which they prove.

Having thus far commented from the viewpoint of the Arts on the many aspects that I feel need correcting in education—mainly concerning the irrelevancy of our present system of schooling, the misconception of the Arts as so-called frills, the mistaken connotations given to work and play, and the erroneous "command" performances required of children as they are unceasingly told what to do—I wish to suggest reforms that are needed in education in order for the Arts to be useful. Having contended that there is abundant evidence that our educational system largely denies to most people any vital use of their senses, I maintain that there is also essential evidence that the Arts by their very nature address themselves directly to the individual human senses. And because they do this, they become a natural and necessary tool in the learning process.

As John Holt points out in his aforementioned book *How Children Fail*, *"Since we can't know what knowledge will be most needed in the future, it is senseless to try to teach it in advance. Instead, we should try to turn out people who love learning so much and learn so well that they will be able to learn whatever needs to be learned."* It seems to me that if we cannot commit ourselves to the proposition of trying to help people find a genuine love of learning, then there can be little hope that adding the Arts as a full part of the curriculum can be of great virtue. It is a basic renewal in the relevancy of all education that we need most of all.

It is dangerous to generalize about something as large and complex as our system of schooling in this country, but as far as my experience has led me, I have seen little manifestation of any genuine and broad educational reform. This, therefore, leads me to suggest that perhaps one reason for our inability to cope with the non-verbal communication system that our young people are growing up with is that we have not utilized the most valuable tool for instruction in nonverbal communication—the Arts.

Again from *Education through Art,* Herbert Read puts forth the noted thesis explicitly formulated by Plato many centuries ago, and I believe he translates Plato's broad view of the function of education into terms that are directly applicable to our present needs and conditions. The thesis is that art should be the basis of education, as evidenced in the Plato quote previously given. It is perhaps true that no one outside of Read, and before him Schiller, has ever taken Plato's cherished notion seriously, except to acknowledge its beauty, its logic, and its completeness. Read believes that Plato's reasonable thesis has been misunderstood—firstly, because for centuries there has been no understanding of what he meant by art, and secondly, because there has been an almost contemporaneous uncertainty about the purpose of education. Of the nature of art, Read tries to persuade his readers that there can be no two opinions, for the definition he offers is objective. It implies no views, no transcendental elements whatsoever. It brings art within the world of natural phenomena, and makes it in certain essentials subject to the measurements upon which scientific laws are based.

However, at the same time Read points out that it is unlikely that he will carry any general agreement on the purposes that he ascribes to education, for here he says, *"There are at least two irreconcilable possibilities: one, that man should be educated to become what he is, the other, that he should be educated to become what he is not. The first view assumes that each individual is born with certain potentialities which have a positive value for that individual, and that it is his proper destiny to develop those potentialities within the framework of a society liberal enough to allow for an infinite variation of types. The second view assumes that whatever idiosyncrasies the individual may possess at birth it is the duty of the teacher to eradicate them unless they conform to a certain ideal of character determined by the traditions of the society of which the individual has involuntarily become a member."* My contention is that the latter one is the posture largely taken by our system of education.

If we can make any immediate progress, which I believe we must with regard to the preservation and encouragement of deeper aesthetic values in the communities of Georgia then perspective is called for. We must be aware that the great majority of Georgia's students are deprived of the opportunity of expressing themselves creatively in any of the Arts, including music, ballet, drama, creative writing, and musical composition. We must find a way as quickly as possible to stop relegating the Arts to a role of minor subjects in our schools. Writing must not be discouraged by insistance on the construction of model compositions. Drawing must cease to mean giving children crayons and paper to keep them busy. We must rid ourselves of the present superficial way in which most of our schools in Georgia look upon the Arts as fillers and substitutes for learning.

We must find a way to accept the plentiful evidence we now have that the child is inherently creative and only believes he cannot do certain things because adults teach him that he cannot—or that at best, he will only be an amateur. We must be willing to admit that we have only our educational system to blame for the fact that most people cease to draw or paint or compose when they become adults, or that even the brightest college students are terrified by a blank piece of paper. We must come to the realization that genuine art is not for the tired man who wants to be amused, or for the frightened child who learns to say that he appreciates what bores his parents. We must be prepared to admit that the abounding amount to mediocre musical materials for our week-end band extravaganzas seldom leads to any kind of mature musical interest or participation after high school.

All this leads me to my next point—the joy of learning creatively. In spite of the limitations he placed on its application, Plato's theory of education assumes a principle of freedom. We recall that Plato's advice is to avoid compulsion and to let children's lessons take the form of play, and that this will also help to see what they are naturally fitted for. But this is precisely what we do not do. Either in kindergarten or earlier, but certainly at the beginning of the first grade, we usually say, "Now we must put away childish things. We play only at recess time. Now we must do the job of reading, writing, and arithmetic." But apparently we are not doing very well with these lessons.

Valuable and careful surveys being done today rarely find students intensely engaged in the pursuit of learning. Indeed, surveys are finding instead a large and rapidly growing number of students for whom the joy has gone out of learning. They find that high school for those students is no longer a place to open the mind and heart—to experience for the first time the wonders of science, the excitements of art, literature and music. High school has become a grim preparation for college—something to be endured.

And for the college student, college has become a stepping stone to graduate school—and in all too many instances, graduate school a stepping stone to a non-teaching career liberally laced with research grants and travel. I wonder sometimes if it is not true that many of these students who seek research grants travel not only in France or in Italy—but in vain. I wonder if the relative scarcity of faculties and money for all qualified students who want to go to college—coupled with the enormous increase in the number of status-oriented students who seek admission to the prestige colleges—have not distorted the values of the entire educational process. Certainly we must admit that grades are pursued obsessively for their own sake. High school cheating has increased alarmingly and has reached into college and beyond. With over 50 percent of our college students becoming dropouts, it has been estimated othat over 300,000 college students are transferring every year—literally an army of academic nomads constantly on the move. If we can accept these statistics as signs of deep discontent and rebellion, then where can we begin to take action on the reforms in education that will be necessary to ultimately overcome such dislocations?

Before any genuine reform in our educational system can take place, I believe we must first reassess our definitions and attitudes towards culture. We know that culture is a dangerous word these days, for it is too often misapplied, misrepresented, and misused. We all have our own definition of culture, and I'm sure I don't know the best definition. However, I offer some statements on the definition of culture by Harold Taylor which I think are excellent, and which are from his paper on *The Spirit of Humanism,* given at a symposium on "Humanities and the Schools" at the University of Kentucky in December 1965. He begins his paper with a quote from Ortega y Gasset: *"Our ideas—that is, culture. The present crisis is less a crisis of culture than of the position we have given to culture. We have set it before and above life, when it ought to be behind and below life—because it is a reaction to life. We must now stop putting the cart before the horse."* Taylor goes on to suggest that we have not stopped putting the cart before the horse. We have simply put into the cart, and we have called it science and the humanities.

"A culture," Taylor says, *"consists of a body of ideas and values at work within a society, a body of ideas which are assumed to be true and according to which the citizens live. To keep the ideas, that is the culture, alive and growing, it is necessary that the ideas be re-*

thought, reshaped, re-experienced and placed in a new perspective from year to year and generation to generation by each new entrant into the world. It is the function of education to create the conditions out of which there can be a constant renewal of insight and a reformulation of ideas and experiences in the personal lives of the young."

Taylor points out, for example, that the nature of justice has its perennial niceties and modes; these can be found in the classical texts. But justice for the Negro, to choose an idea at random, has its immediate meaning in the lives and attitudes of contemporary Negroes and whites within the context of contemporary society. It is an activity, a series of feelings, ideas, and acts which take place in a personal and social context. He also chooses another example. The nature and form of the beautiful, he continues, can be read about and seen in the classical texts and models, but the true nature of art can only be found through immediate experiences, feelings, ideas, and acts which take place in a cultural context. Taylor gives these two obvious examples before saying that Ortega's remark is true, and that the American system of education has given a position to culture which divorces it from the living experience of the young.

Schiller has observed that *"one of the most important tasks of culture is to submit man to the influence of form . . . to make this life aesthetic . . . because only from the aesthetic, and not from the physical state, can morality develop."*

There is a need in education for looser categories, and less precision of reference. There is a need for ways of putting together the results of personal insight, and of spontaneous perception into forms through which we can enter straight into the common experience of man. We have to deal with matters of the heart, of the senses, of the deepening of consciousness itself. The artists and writers and composers will find the forms and categories with which to do this. The responsibilities of our schools, then, will have to be to find ways in which the work of writers, painters, sculptors, architects, composers, and choreographers can be opened up to those who have not thought about or been interested in what the artists have been thinking or doing.

This will mean, of course, that our educational institutions from the elementary school to the graduate school must become the organizers of experience. We will need teachers to be sensitive enough and informed enough to put their students into situations in which the ideas and images of all artists—sculptors, painters, playwrights, designers, architects, historians, philosophers, and dancers—can have a chance to enter fully the consciousness of the students. This, then, means that the student must become involved in the doing of the Arts as well as in a confrontation with the real issues involving genuine intellectual and moral options. Then the student will come to understand that he alone must make the decisions on the quality of his own response to an art object. It is he who must judge the worth of an idea within a framework which is his own, and which he must learn how to construct for himself.

If we can accept the evidence we now have that an increased quality of intellectual perception is possible through the students' involvement in one or more of the arts and that it is a natural and essential part of the process of achieving one's humanity, if we can accept the growing evidence that an involvement in the Arts can open up whole new landscapes of interest, then we can ask new questions, and most importantly, an awareness of all that there is to know about the world we live in can evolve. If we can accept the evidences that I believe are now visible in the Arts, then we have a beginning and action becomes a possibility.

I believe, however, that we must make certain definite commitments if our action is to prove of any real value. The first and most important one, I think, is that we must make the Arts a full-fledged part of our curricula. We must commit ourselves to a greater trust in young people even from the earliest age, for surely we must know by now that we cannot at any given time tell precisely what particular knowledge a child needs the most. Only the child can do this, and we must do the best we can to give him some idea of what is available and where he can look for it. The choosing is something that he must do for himself. We must commit ourselves to an understanding that the school or the classroom is not always the best place for learning to take place, as we know perfectly well the average classroom today is a place where children are told what to do by adults.

At least we already have a small beginning, for there are now more and more scholars and educators who know that the creative Arts are not only a source of joy and fulfillment, but they are a primary mode of education itself—a primary means of developing intellectual power. We even hear an increasing amount of talk of the creative Arts in this respect, and that is encouraging, but the action is too limited and too slow.

The most treasured memories that I have of the ten years in which I taught creative drawing in the School of Architecture at Georgia Tech are of the students who discovered their own individual learning ability for the first time through playful creative experiments in drawing. Such experiences were too rare and I found that my most difficult task was in attempting to convince students from the freshman year in college to the graduate school of the need to experiment, of the need to risk making a bad drawing in order to discover from the experiment. I found that most students were unwilling to risk that failure for fear of a bad grade, even though they had been informed that their grades would be based on the genuine effort they made to use their imagination and experiment freely. But apparently our system of education has taught our students to fear the failing grade more than to fear the lack of a creative imagination. In the last analysis that creative imagination may be our only hope to change the quality of the human condition that exists in the world today.

At the risk of drawing too heavily upon one author, I again quote Harold Taylor—not because he has the only comments to make on culture—but because for me he states so precisely the problems concerning the quality of our education today. He observes, *"If we are to have the quality of life in the communities of America to match the full possibilities, we are going to have to redefine what we mean by education. If we are to have the audiences, the artists, the performers, and the critics to create the environment in which life can be enriched by the presence of great art, we will have to consider no education complete in school, or in college, that does not engage the student directly as a participant in one or more of the Arts."*

The Arts are a natural form of education, and there are many possibilities that the artist can explore in the classroom. Children can create their own musical instruments and systems of sound; they can use junk to create new objects, and they can make poems out of "found" bits of writing. Artists can explore graffiti with children by leaving blank paper around and letting the children write where they choose on it—and compare, especially in ghetto areas, what they write with what they find written on walls of their neighborhood. Then that first sheet of graffiti can be photographed, enlarged, and the children asked to start all over again and write on the blown-up photograph. What better way to lead into a study of collective art, the development of custom and tradition in cave paintings?

Children can also be encouraged to make up mythologies that apply to their own lives and their own community or neighborhood. These mythologies can then be acted out as theatre, and movies or video tapes can be made of them. The children can invent sets and costumes, and also learn the art of filming. Art in this sense helps children obtain a heightened sense of their environment and a creative power over it. Most important, they will be able to communicate more readily with each other, their parents and teachers because the content of their learning will be humanized. Art can lead beyond the present into the future, and back to the past—but it starts with who the child is now and where he is, whether the area be urban, suburban, or rural.

In conclusion, the discontent and rebellion that is visible around us today is obvious enough, but what troubles me most is why this discontent is not more widespread than it is, in view of our miscellaneous, irrelevant, obsolete, and authoritarian schooling. I can only conclude that perhaps too many politicians, schools, and parents have done such a good job coercing the young into the routine command performance of memorizing and spitting up that a real fear of some future retribution or of displeasing the parent or the teacher constrains them from speaking out.

Reform in the educational role of our schools has begnn, but it is not yet visible enough. We must electrify our present attempts with renewed energy and wisdom of perception by finding a broader base for communicating man's creative imagination and his great ideas. We must help him to focus these talents on the environment in which he lives.

Therefore, as Harold Taylor suggests, *"The Arts, all of them, should be regular components of the schools and the colleges, not in order that we may claim our students to be educated, but in order that our people may achieve their own humanity, that society may be infused with an aesthetic content."*

Before we can guess where we will be in 1985 in education I suggest that we ask ourselves where we are now. Needless to say, we are at a crucial time in the history of our educational system, and the common man hangs in the balance. Television has gripped us all to some extent and seeks to hold our attention to the valuable role it could play in the learning process. Our schools have certainly been aware of the administrative process but with little attention to the human process.

Professor John I. Goodlad, Dean of the Graduate School of Education at UCLA, puts it more precisely in regard to TV: *"On one hand, a powerful medium has caught the attention—indeed, the very lives—of our children. But it lacks significant substance to nurture a civilization and appears to care not, despite its protestations, whether it uplifts or debases. On the other hand, the only institution charged specifically with the performance of educational functions fails to grip a significant portion of its clientele. Unfulfilled educational promise lies between."*

And now with the electronic teacher of great power—the computer—with us in this human-based environment, Professor Goodlad asks these fundamental questions: To what extent is each individual being provided with opportunities to develop his unique potentialities? To what extent is each individual developing a deep sense of personal worth —the kind of self-hood that is prerequisite to self-transcendence? To what extent are our young people coming into critical possession of their culture? And to what extent are our people developing a mankind identity—an identity that transcends all men in all times and in all places? Where we will be in education by 1985 depends on how these questions are answered.

We need an education of self-understanding. The Arts address themselves to the senses of each individual, thus becoming an essential instrument for greater perception in the learning process. Our best hope for the transcendence of self into the human community lies in the experience of the individual knowing who he is in order to know what he can become.

Arts educationalists in Georgia, and in the rest of the nation as well, have had with very few exceptions little effect on our system of schooling up to now. I would like to suggest several reasons for this failure. In the first place, Arts educationalists have not been able to convince the schools that the Arts are a means of communication as essential as reading and writing and that the Arts may even need to take their place at certain early periods of the learning process before the value of reading and writing can be properly understood. Secondly, there has been a failure to demonstrate to the schools that the Arts are one of the few educational experiences that are not passive because the Arts depend on the relevance of living experience. Thirdly, Arts educationalists have apparently not led the schools to an understanding that the Arts are also direct action programs and that, far from circumventing the educational process, they add valuable and essential information to it.

Therefore, the system of schooling in this nation is failing to truly educate the majority of its students. And it must be said that even when the schools have turned to the Arts they have with few exceptions done so by merely adding them as courses to be taught in the same old miscellaneous way as scraps of information rather than turning to them as a vital communication capable of changing the whole promise of education in this country to a realistic and imaginative understanding of the environment in which we live.

Georgia has long had the resources for creative education programs, but we have largely ignored them. This State is fortunate in having many talented, wise, experienced people who can make an extraordinary contribution to the quality of education for all our citizens, and in so doing give Georgia a role of national leadership, if we can have the courage and good sense to seek their advice and counsel now.

Therefore, I respectfully suggest that the Commission on Education Goals appoint a committee for the Arts in Education to consist of the most able people available to represent all of the Arts. Their responsibility and purpose would be to determine what some of our most important goals for the Arts in education should be, starting first with elementary and secondary schools. They should then recommend ways and means of implementing such recommendations, directly to the State Supervisor of Education. I suggest the following categories for such a committee—

Architect
Urbanist
Environmentalist
Film Maker
Painter or Sculptor
Poet
Playwright, Actor, or Director
Composer
Choreographer or Dancer
Singer, Conductor, or Instrumentalist
Arts Educator
Designer Engineer (to deal with relationships between the Arts and Technology).

I take the liberty of also suggesting several goals that might be considered.

- The Arts—all of them—must become an integral part of the every-day living experience in education.
- The confining walls of the classroom must be expanded to include the whole environment and the world of things to be learned from it.
- The natural creative play of children must be part of the learning incentive pattern so that the student will have a real part in the planning of the curriculum.
- Students should share in the teaching of the class in order to break the traditional practice of one fountain of information at the front of the classroom with the students only being ears to hear what is told to them.
- The imposing of value judgments by the teacher must be deferred at certain times long enough to encourage in each student a genuine confidence in his

(the student's) own individual creative imagination in order for the student to be confronted directly with the choice of values, in which the teacher can become an important guide.

- Students—all of them—should ultimately make a vital contribution to the planning of our schooling if we really want honest reform in education.

The Arts must become the common denominator—the common communicator—in the learning process in order to heighten an awareness of the aesthetic sensibilities with the result that education will be genuine.

"The surface of the earth is soft and impressable by the feet of men, and so with the paths which the mind travels. How worn and dusty must be the highways of the world, how deep the ruts of tradition and conformity."—Thoreau

George Beattie is the executive director of the Georgia Commission on the Arts. Mr. Beattie received his art training at the Cleveland Institute of Art and served as chairman of the Department of Creative Drawing at the School of Architecture, Georgia Institute of Technology, from 1948 until 1967. In 1955 he received the National Institute of Arts and Letters Grant and in 1956 was recipient of a Fulbright Grant for a year's painting in Italy. His works have been included in two Smithsonian Institute, Washington, D.C., exhibitions, "Italy Rediscovered" and "Fulbright Painters." He is included in the collections of the Whitney Museum of American Art, the Childe Hassam Purchase, the Atlanta Art Association, and many important private collections. He has had several one-man shows throughout the South and two in New York. He is represented by Hirschl and Adler Galleries, New York. Mr. Beattie served as vice chairman of the North American Assembly of State and Provincial Art Agencies during 1968-69.

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critique:

The Arts in Georgia

By
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Creative
Atlanta,
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THIS critic is in full agreement with George Beattie's presentation of "The Case for the Arts in Education" and I regret sharing Mr. Beattie's concern for the future of the arts within a highly activist, materialistic, and scientific society.

William James once said: "*Think how many absolutely new scientific conceptions have arisen in our generation and then cast an eye upon the brevity of Science's career. It began with Galileo not three hundred years ago. Is it credible that such a growth room of knowledge, such a growth overnight as this can represent more than the minutest glimpse of what the universe will really prove to be when adequately understood? No! Our science is a drop, our ignorance a sea.*"

There is still confusion concerning the function of a college. Is a college still able to give a student a liberal education, to ultimately "liberate" his mind, or is it mainly a vocational school for job training? Are universities not mainly to impart knowledge to students, while the arts have very little concern for academic knowledge? The artist's consciousness of the unknown is often his main resource for creativity. Darwin sensed this when he wrote before his death: "*If I had to live my life again, I would have made a rule to read some poetry and listen to some music at least once every week; for perhaps the parts of my brain now atrophied would thus have been kept active through use. The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature.*"

There are certain basic tensions in most of our educational institutions between the active artist versus art educator; the individual versus the institution; research versus teaching-social action. As I was associated with the Performing Arts in Europe, the collapse of Atlanta's Alliance Arts Center (theater, opera and ballet) did not surprise me. An arts center building alone without the necessary operational funds is not enuogh. In Europe, institutional theaters have always been heavily subsidized by the government. Considering the current political climate in the United States of America, I see very little chance for government support for theater in the near future. However, the success of the Tyrone Guthrie Theatre in Minneapolis indicates that there is a chance for professional theater in partnership with a university. This is confirmed by similar successes of "Artists in Residence Projects" at various universities across the country.

Since I have been in Atlanta, I would like to add some further observations.

Music

It seems increasingly clear that the musical scene in this country will change profoundly in the decades from now to the year 1985. The new literacy is musical, rather than verbal. One of Marshal McLuhan's principal theses that Western man is, to paraphrase Joyce, "getting an ear for an eyes" as he passes out of the age of print, would help to reduce the class and racial barriers in our schools and concert halls. Our music departments have to recognize that the invisible culture of the poor has a rugged vitality of its own.

Music has unique nonverbal values that can enhance the life of man or society in ways unavailable through literature. It is our duty to seek true musical communication with the great masses of our population. The resulting enrichment of our music will give it a new vitality at all levels, and provide a united voice that can speak, without sham, of our democratic ideals. There are, of course, distinctions to be made between the indigenous music of blacks in America (spirituals, blues, gospels), of American Indians, or of immigrants from Latin America, and the inescapable commercial music with which the mass media blankets all Americans, minority groups included. While some of our jazz composers are studying the techniques of native Africans, others are turning to electronics for new sounds to produce "third stream music."

Most public schools of Georgia have only one or two music teachers available to take care of the entire Music Department. That anyone should be expected to teach all string, wind, brass, and percussion instruments effectively, to organize and lead bands and orchestras and to teach fourth graders music literacy with the aid of Tonettes is simply unrealistic. It must be borne in mind that in the case of the beginner, the first lessons are the decisive ones. Mastery of a musical instrument is a formidable task; it can be taught effectively only by a person fully versed in all intricacies and who, above all, is in love with his instrument. The teacher's enthusiasm is the most important factor in awakening and holding the child's interest and stimulating his willingness to put forth the sustained effort required of him. Learning is first of all imitating; therefore, the teacher must be a master of the instrument he teaches. *The employment of specialists is mandatory.*

Before learning to read music and before studying an instrument, a child's musicality must be developed. He must have had the discipline in elemental music-making which develops his rhythmic and tonal sense. This can be achieved through active and pleasurable music making—if need be, without the aid of musical instruments.

It is recommended that all children from kindergarten through second grade be taught elemental music making based on the approaches developed by Carl Orff and Zolton Kadaly. These approaches are designed to harness and cultivate the innate elementary musical impulses in every child.

It is recommended that all children in the third grades be introduced to musical notation and sight-singing. These disciplines, in increasing difficulty, should be continued through the upper grades.

It is recommended that instrumental instruction be offered in the fourth grade and given in small groups (preferably not exceeding five students) and taught by specialists on each instrument.

At a certain stage the one-to-one relationship between pupil and teacher is of great significance in the development of a student's capabilities. A personal relationship resulting in empathy is an important factor in education in the arts.

The Need for Community Music Schools

The National Guild of Community Music Schools was organized in 1937 to co-ordinate the work of community music schools across the country. These schools are uniquely American; they evolved during the late 19th century in response to social-cultural needs of a population seeking a national identity. As independent organizations or as settlement departments, community music schools have made an important contribution to the development of America's musical life—they have placed the study of music within the reach of all.

Community music schools emphasize high standards similar to those of conservatories or other vocational music schools and have given basic instruction to a number of noted solo artists and symphony orchestra members. The community music school offers not only individual instrumental and vocal instruction, but also makes available valuable group experience which includes theory and musicianship, ballet, modern dance, orchestra, chamber ensemble, chorus, music therapy, and courses designed specifically for adults. It has a professional faculty dedicated not only to concepts of artistic and educational excellence, but also to an understanding of human values. It serves specific musical needs of students of all ages, from three to those in retirement who are seeking new challenges.

Artists in Residence

Most educators agree that the students in our schools lack motivation in their search for relevance and involvement. I am convinced that artists in residence could bring this needed charisma to our youth.

The artist-teacher, because of his magical and myth-making qualities, as well as his craft discipline and dedication, is almost inevitably a charismatic figure to adolescents, and just as the clinician inevitably directs himself to pathology, the artist directs himself to health.

I venture to say that the City of Atlanta is the only city in the United States having a permanent symphony orchestra without any independent music schools. I am sure that the management of the orchestra is having a hard time attracting first class musicians without being able to offer those musicians additional incomes by teaching at community music schools.

Rural Georgia

American history began in small settlements and crucial American values stem from there. Can we rediscover and strengthen our small communities? Children in rural poverty areas of the United States have hardly any opportunity to be exposed to live performances—much less, to adequate instruction in the Performing Arts. Entertainment is lavished upon them by television and radio, stifling rather than encouraging their active participation and creative impulses.

An attempt must be made to develop by means of an early education in the Performing Arts a better quality of life for our rural population and to make use of these arts for the purpose of upgrading the general learning process of disadvantaged rural children. This will require new techniques.

I suggest a MOBILE ACADEMY OF THE PERFORMING ARTS FOR

RURAL CHILDREN in Georgia. The structure of the project—that is, its educational approaches and teaching materials best suited for the specific needs of disadvantaged rural children —should not be pre-determined but should be developed on the basis of the children's response to the program.

Answers to these questions should be sought.

1. To what extent can public school classroom teachers become effective in the use of of modern teaching techniques in elementary music-making after *receiving specialized instruction and being guided and supervised by expert specialist teachers?*
2. What techniques and approaches applied by resident artists, brought to rural areas, will result in optimum involvement of the community, and what kind of community activities can readily be engendered by a Mobile Academy for the Performing Arts?

Projecting into 1985, I visualize a great opportunity of art councils in many small towns in Georgia. Its main target would be to identify individuals interested in the arts, to develop an appreciation for the aesthetics in the environment, in addition to the arrangement of Folk Festivals featuring music and dance of Georgia (including the early English ballet and slave songs, as well as church music of blacks and whites).

The Performing Arts At Colleges and Universities

Institutions of higher learning are becoming increasingly important to the well-being of the arts, not as a part of academic life in an isolated sense, but as part of the grand design of artistic enrichment for the creator, performer, and observer; in short, *the disciplines of practice, perception, and patronage.*

Too much of academic pursuit of the arts is concerned with talking or writing about art; it ignores art in direct experiences such as performing a play, a dance or an opera. Such participation could help the student psychologically, since the Performing Arts are excellent ways of moving toward the discovery of identity. Performance has given to the fortunate ones a rare "peak experience," which we all long for.

The colleges in Georgia might assume a major role in the growth and development of the arts, particularly in the new American Arts of the South of the mid-twentiesth century. Since there is no effective training program at the university level south of New York, the importance of such a school to the educational progress of the region is clear.

One of the most distinctive aspects of this plan is an internship program which would engage all students in programs of acting, directing, design, technical studies, dance, opera, and theatre administration. According to this plan students majoring in the performing arts would be given an opportunity to matriculate for internship programs which would take them to other art centers of professional activity.

Professional Job Market

Art programs today in the great cities, in smaller communities, and in educational institutions represent a substantial segment of the *professional job market*. If we consider the major industries which support the activity of the arts in America today, the scope of this field may be understood: Radio, television, motion pictures, recording, theater, dance, opera, museums, instrumental music, public and private arts administration, and arts education. Traditionally, the thrust of the curriculum in the smaller colleges has been toward preparation for the so-called useful occupations, to the exclusion of art development.

The arts have the power to affect perception; to determine the nature of the individual's linguistic frame, to shape his values, and ultimately to determine the way in which he interprets his relationship to the world. In an important sense, the quality of arts experience offered in any community is an index of the kind of life which characterizes that segment of the total social, intellectual, and political structure.

There is now another reason for the acceleration of national interest in the arts. The arts have, in Western history, rivalled the sciences as agents of constructive social change. What is perhaps of greater significance is that they assist both the individual and society in the development of new intellectual, social, psychological tools for coping with such changes; and provide opportunities for the individual and society to explore new solutions to human problems which are less costly than are comparable explorations in life itself.

Some Personal Observations

Last year, the University of Georgia started a new postgraduate program in drama. The Music Department too has similar plans. This year the Atlanta Board of Education established an Artist in Residence Program. Professional artists are employed in Model Cities Schools in Atlanta. Economic Opportunity Atlanta, Inc. has established Art Workshops in various neighborhood service centers. Atlanta University Center Corporation is considering the establishment of a Performing Arts Center.

Conclusion

The new art in 1985 may be much more in and of the community. Paintings may appear on sidewalks and in the corridors of schools. People may be touching sculptures on street corners and watching plays in the parks. The audience may become the players. The emphasis will be on active participation, on creation rather than on consumption. Paul Williams says, "Today is completely different." So will the arts be different as long as people are "different," as long as there is "another day."

A Proposal for the Establishment Of a Performing Arts Center And an Artist in Residence Project At Atlanta University Center

By Benno D. Frank

This proposal is to recognize the great contribution made by the Afro-American artists in the field of music.

Purposes are to stimulate the social life of the students, to intensify their involvement, to attract talented students to enroll at the Center, to raise the level of excellence of students in the Performing Arts at the Center.

Emphasis is given to the studies of

1. Negro Spirituals,
2. The Gospel Songs,
3. Traditional Negro Church Music,
4. The Blues,
5. Jazz.

Planned are

1. Master Classes on traditional Negro church music (spirituals and gospels).
2. A Seminar on Jazz
3. A Seminar on Dance (Prominent dancers of a variety of schools should be invited to give demonstrations at the Center.);
4. A Seminar on Theater which would bring together Negro artists with different points of view.

critique:
The Arts in Georgia

By Hubert B. Owens,
Dean,
School of Environmental Design,
University of Georgia

AFTER reading Mr. Beattie's "Case for the Arts in Education," I find myself too restricted by his implied, unstated definition of "the Arts," and—more important—unconvinced by his case for them in education. I am, moreover, in disagreement with the author's views in regard to the place, purposes of, and claims for the arts. Furthermore, I am concerned lest the universal sensitivity to beauty in a public sense which he neglects to emphasize will also be ignored by Georgia educators and citizens.

On the other hand, I am in complete agreement with three of the author's observations: that much education today is irrelevant; that man has always been concerned with something more than naked utility; and that the educational system should be charged with developing the senses as well as the intellectual powers of its students.

I fear, though, that the author's approach to educating the student will not create either more relevance nor more aesthetically sensitive Georgia citizens in 1985. Indeed, if art educators succeed in convincing educators that "the Arts are a means of communication as essential as reading and writing," we may not even have an informed citizenry.

Let me state here that I have been vitally concerned with beauty and ugliness—natural and man-made—as well as education for over 40 years, and that my whole-hearted commitment has always been to beauty, order, and form. I have taught, practiced, preached, and administered activities which have upheld the cause of beauty and order all my life, and I sincerely believe in their importance. Nevertheless, I do not see my work, my profession, or my particular crusade against all forms of waste, destruction, and unloveliness as a panacea for *all* the problems of education, personal fulfillment, or the quality of life in general.

For this reason, I feel that the author's claims for the personal, public, and educational benefits of "the Arts" (capitalized but never adequately defined) are somewhat out of proportion to their real role in the mosaic of life and education. I cannot agree that art "should be the basis of education," nor would I expect to find agreement among teachers of reading, writing, philosophy, psychology, literature, the sciences, or any other field.

Nor do I believe that the arts are a "natural and necessary tool in the learning process," even if they are both natural and necessary in the living process as I define them. If TV is, indeed, overshadowing the efforts of our schools, the reason may lie in our inability to harness what we already know about learning and teaching with *words*. More *art* in the schools is not necessarily the answer to poor teaching of reading and writing. Nor is it the answer to the lack of verbal and intellectual substance in TV programming.

To my mind more art in curricula is no cure-all for dishonest, irrelevant, or boring teaching. Nor do I see the connection between art education and the educational system's inability to teach students to think, become involved, be creative, or develop as individual human beings. I do not know what the answers to these educational problems are, but I am convinced that they are beyond the province of art.

Of course, adding more art to curricula is a pleasing thought to me and others associated with the arts. However, two important points must be considered.

1) More of the same kinds of art courses would not, in my opinion, further the cause of art or the cause of education; and

2) My colleagues in mathematics, English, history, physical education, social sciences, and countless other fields are making the same kinds of justified demands on already over-crowded curricula.

In short, I see little space and less justification for expanding many of the types of art offerings we already have.

As for the personal benefits of developing the senses via the arts, I must question whether even extensive art education can automatically lead to self-understanding, imagination, morality, insight, involvement, motivation, satisfaction, increased intellectual power, or many of the other benefits which the author cites. Although I wish it were so, I cannot honestly say that my students—or any other group of students in the arts—are significantly more richly endowed in these respects than graduates in other subject areas.

On the other hand, I would not dismiss, as did the author, the healing, inspiring, and recreational effects of art. Far from agreeing that "genuine art is not for the tired man who wants to be amused," I am pleased and proud when he finds art in any form to be a means of refreshing his tired spirit. At the School of Environmental Design, we take great pains to train young men and women in the art and craft of providing, planning, and maintaining the natural and man-made beauties of the world so that they will bring tranquility and inspiration to the tired man as well as the active one.

I must take issue, too, with the author's argument that we are all born with creative powers and, *ipso facto*, are therefore all interested in "the Arts" with a capital A. My guess is that many of us are born creative with words or imagination rather than artistic talents. In any case, these do not survive through school or adulthood because people choose to pursue other fields of interest. I would say, instead, that we all possess a preference for the beautiful and the orderly, for well-formed and well-balanced things. Even those children or adults who have no artistic creativity whatever have at least some capacity to appreciate the artistic, well-designed things around them, however unconscious this feeling may be.

To summarize, I share the author's concern for the state of education, the importance of developing the student's senses, and the natural striving for more than naked utility. But I cannot agree entirely with the implications which he draws from these basic ideas.

Developing the senses through art education is, to my mind, worthwhile only if it is geared to the *majority* of students—the average, untalented citizens of 1985—rather than a select few creative students who will be the artists and art patrons of 1985. As a practical matter, we cannot assume that everyone can be a painter or sculptor as an adult, and it is not the fault of the schools that he is not, as the author implies. But we all *can* be critics, guardians, and supporters of beauty in the world around us. The fact that many adults are not could be blamed on our schools and art educators. If we must place blame at all, we could also blame our art educators for the shortages of professional people in the environmental design professions. Someone has failed to make students aware of the role of these professions in protecting and enhancing the world we live in, and has failed to interest students in this form of public art.

I think we can safely say that the individual who fails to cultivate a lasting interest in "the Arts" in school will find personal satisfaction in other ways: in his workshop, his stamp collection, or his fishing trips. We can also assume that our civilization (and even our artists) will survive if our museums and galleries have no more patrons in 1985 than they have today.

But I cannot be so optimistic of the future if we fail to cultivate in children a love, respect, and interest in the health and beauty of their environment. I hesitate to think about what will be left of our already vanishing and exploited natural beauty, our already decaying, dehumanizing cities, or our already polluted and neglected atmosphere. I wonder, too, where the citizens of 1985, with their increased leisure and increased tensions, will go to seek the recreation and spiritual refreshment they will surely need if we do not now begin to teach the virtues of environmental beauty and the hazards of ugliness to the future planners, engineers, conservationists, politicians, and voting citizens of our state.

Indeed, the job of art education as I see it is to make even the *fine* artists of 1985 aware that their sculpture or painting belongs in a larger context of beauty. We must teach them to use at least *some* of their talents for the enhancement of public squares and parks in addition to private homes and art galleries. It seems to me that even Art with a capital A cannot in our day be restricted to the enjoyment of a single artist and his select few patrons.

Landscape architecture as a profession learned this concept of public responsibility many years ago when its practitioners were still largely engaged in further beautifying already beautiful private estates. They have learned, I am proud to say, to respond to the public call for help where help is most desperately needed — in the environment which surrounds us all, and which often threatens to engulf us in chaos and ugliness. It is my hope that all practitioners of the arts as well as students in every field of interest will respond to this call for help by 1985. They must be educated to value and to *demand* an environment which brings order, peace, beauty, form, proportion, balance, and human scale to their homes, cities, and countryside. They must also be made aware of the fact that professions exist whose job it is to help with this task. The only way I see to accomplish this is to have a citizenry educated at all levels of the educational system to be discontent with ugliness, erosion, pollution, and other offenses to the eye, the spirit, and the health of mankind. "Discontent," as Oscar Wilde said, "is the first step in the progress of man or nation."

In short, the kind of art education I have in mind for *all* students would produce Georgia citizens of 1985 who are well acquainted with the principles and purposes of the environmental arts.

These citizens could then exert a constructive influence by joining the ranks of environmental artists, by using their talents in other fields to help with the tasks of conservation and beautification, or by supporting the effort as interested, voting citizens. Everyone has a place in the environmental arts as a responsible consumer, a participant, or a vigilant supporter.

Aside from helping to ameliorate one of society's most enervating ills, this type of art education would, I believe, be one answer to the problem of irrelevance in art education. It seems to me we can teach the principles of form, color, texture, and good design far more effectively if we can show their relevance to the blight of the cities and the rape of the countryside. Assuming the irrelevance the author cites so often is also a fault of art education, I suggest we concentrate our attention, not on more, but on better, more meaningful art courses. For example, how much more interesting and educational a course in art history is when it is a part of an interdisciplinary course or program which gives the student a background of the history, literature, and culture of the times. Although some of the so-called civilization courses at the undergraduate level which take this approach have been criticized for their superficiality, it seems to me that the idea behind them is inherently sound.

At the graduate level, interdisciplinary programs in American Studies, for instance, also give the arts their proper place as part of the fabric of life in a culture. What a different view a student must get from this vantage point than he does when he is subjected to a memory exercise in the Old Masters!

But regardless of how it is achieved, relevance should be the biggest concern of our art educators today. Time spent integrating art education with life today or in times gone by will be more effective than time spent arguing that the arts are a "natural and necessary tool in the learning process," or that they should be more plentifully represented in an already crowded curriculum.

"Art is I, science is we," Claude Bernard said. If this is so, it cannot remain so much longer. The public implications of insensitivity to the arts are too grim to allow art education to be geared to the personal enrichment of a talented few—and the absent-minded note-taking of the uninterested many. "We shape our buildings; thereafter they shape us," Winston Churchill said. This is certainly true if we read "buildings" in the broader sense of environment. But too often we do not shape our environment at all. We let it grow without sense or symmetry, or we let it die without taking the measures needed to preserve its beauty and resources.

Our environmental crisis is, I acknowledge, only one of many. But it is nevertheless a crisis which affects body, spirit, and pocketbook. The arts, too, are only one of many fields of human endeavor, and I do not think they will or should ever be a major part of the curriculum. But I do think they should be a *meaningful* part of every level of education so that society and its individual citizens can be helped to transcend mere naked utility. How to bring such broad, meaningful art education about is another matter and a difficult one. The author's suggested task force falls short of being effective in two ways, I think:

(1) It includes practitioners in fields unrelated to art; and

(2) It underestimates the size of the job to be done.

I would prefer to replace the poet, the musician, the dancer, and the playwright with art educators at all levels from elementary to graduate school. The job of reshaping art education must be aided by those who are familiar with the problems and potentials of teaching art. Secondly, I would suggest a large-scale, full-time effort to revamp the content and approach of art education so that it will be meaningful to Georgia and its citizens in 1985. This kind of change cannot, I believe, be accomplished by busy men in after-hours meetings. It would require the full-time attention of a group of salaried practitioners, educators, and environmentalists (including planners, engineers, architects, and landscape architects) for several summers or a year or two at a time. It would require financial support. And it would require a commitment by all concerned to a broader interpretation of the teaching of art as a part of the fabric of society. The kinds of art courses which emerge from such a titanic effort should succeed in taking art out of the museums and guiding it into the streets, mountains, and rivers. It should take it off its pedestal and out of its frame and channel it to the mining machines, cement mixers, and city planning offices.

If this can be accomplished, and I think it can, it will be obvious to everyone that art is no longer a "frill" in the curriculum. There will be less need to convince educators or students of its value as a tool for ensuring the survival of the human race. This approach would also benefit the student as Harold Taylor defines him (italics mine) and as he apparently defines himself: "A student is a person who is learning to fulfill his powers and *to find ways of using them in the service of mankind.*"

And lastly, but by no means least important, society stands to benefit. We will be training students who understand the practical applications of beauty and form in their surroundings, and can act upon this understanding in some way as adults. And we can also begin to train some of the new leaders who were called for in this excerpt from an editorial in a leading Georgia newspaper.

> Once upon a time the world was run by theocrats, and then we turned it over to the lawyers and the bankers. Things are in something of a mess aesthetically and sociologically as a result.
>
> We need new leaders, and we think we see them beginning to emerge. They are the planners and architects (landscape and otherwise), and related groups which are concerned about environment and relieving the stresses produced by our new helter-skelter way of urban living.